THE
CONTRACT JOURNAL
INCORPORATING
THE BRITISH CONSTRUCTIONAL ENGINEER AND THE CONTRACTOR

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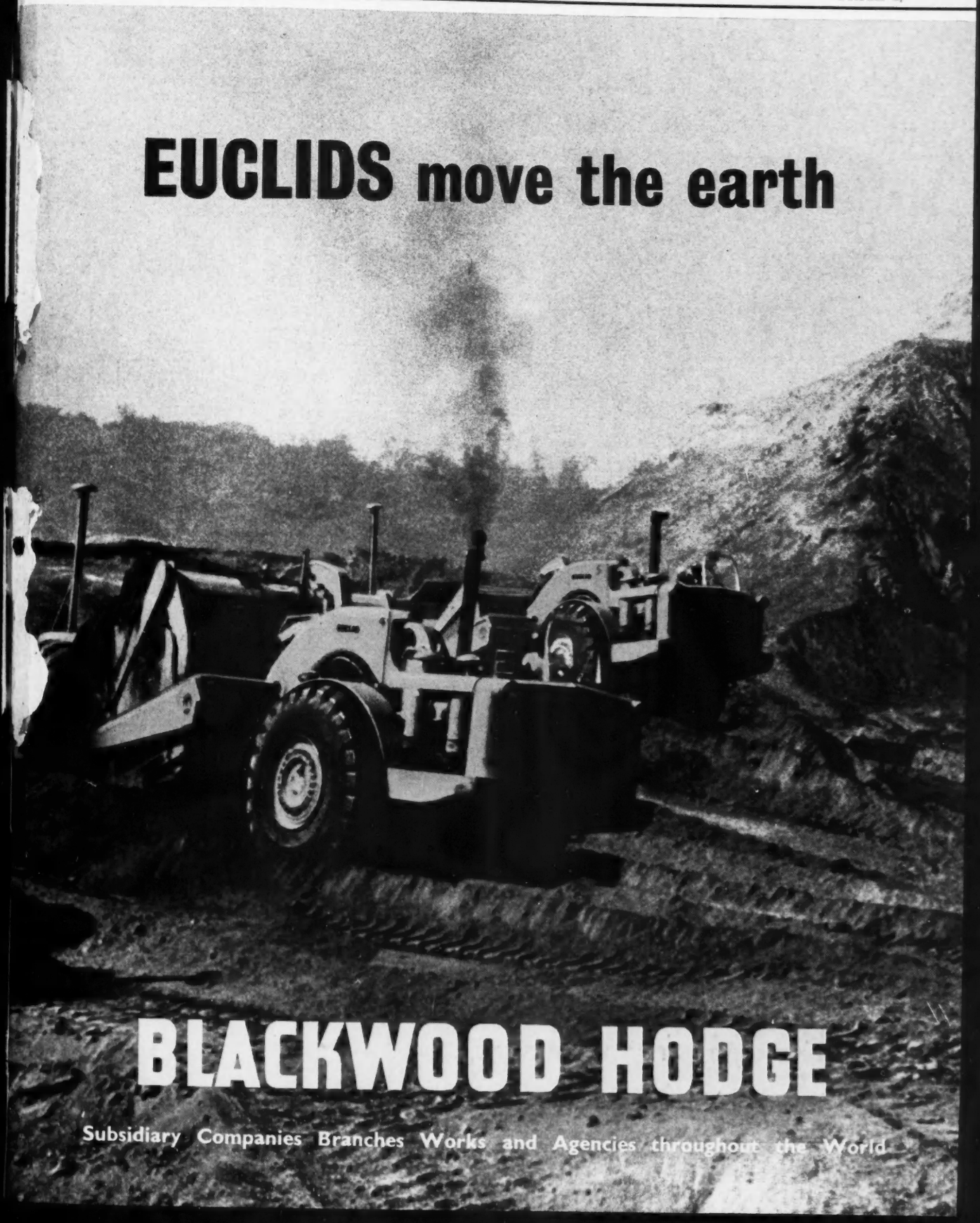

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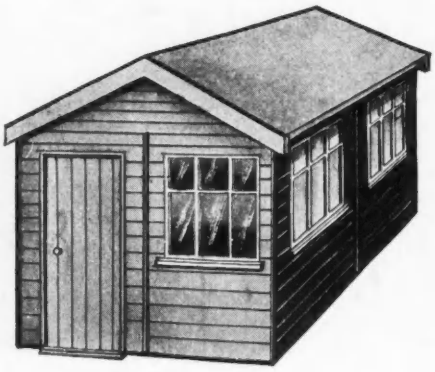

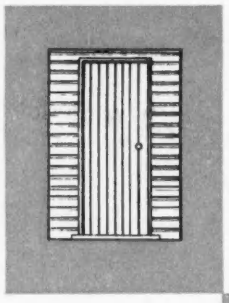

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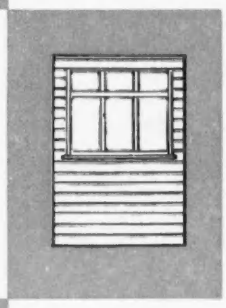

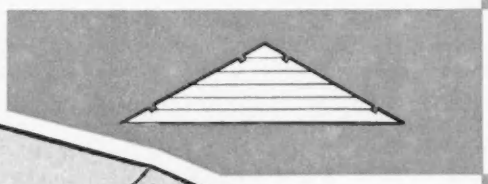

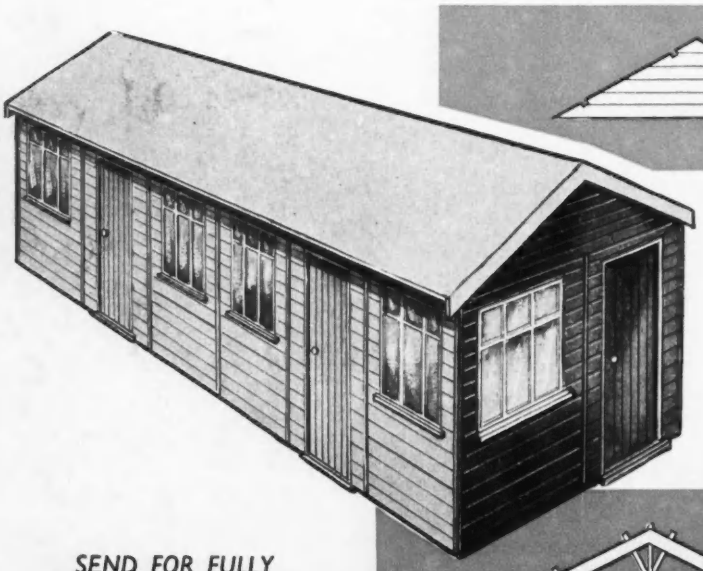

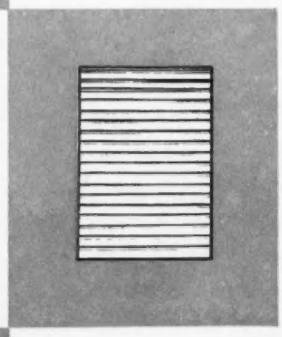

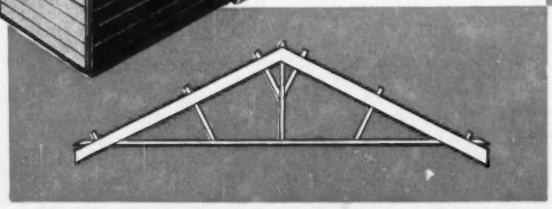

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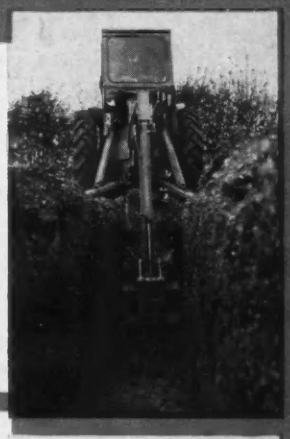

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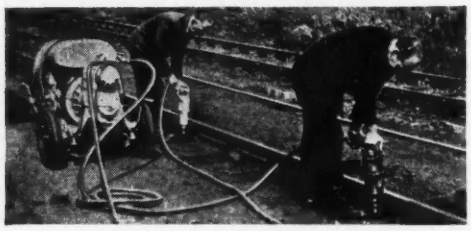

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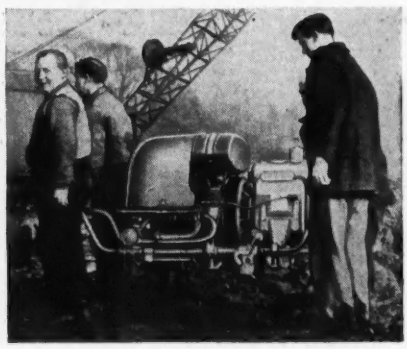

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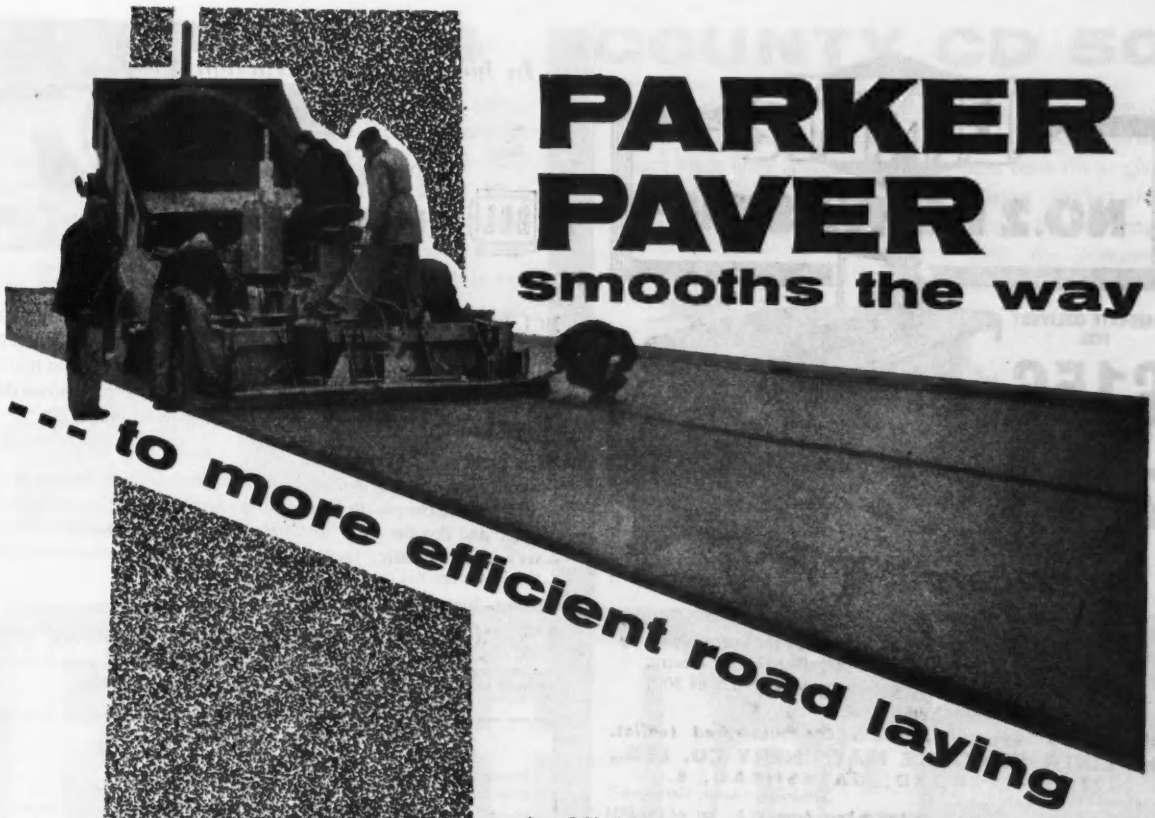

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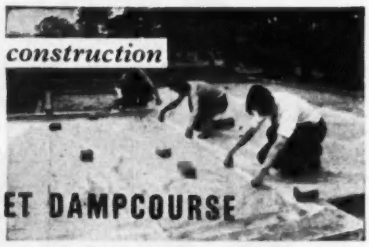

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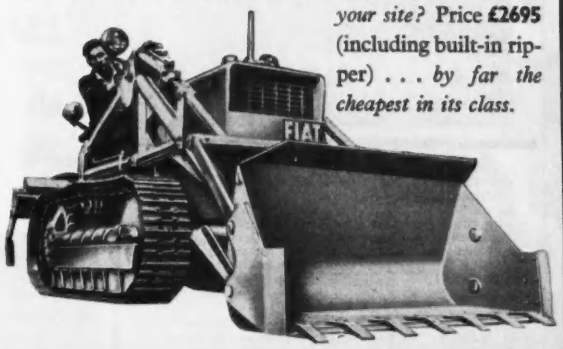

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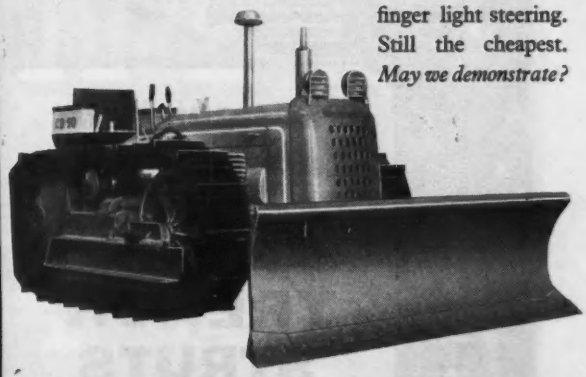

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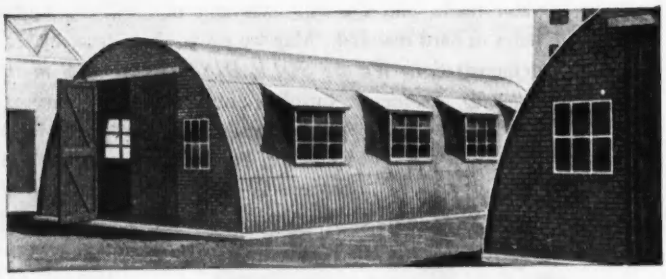

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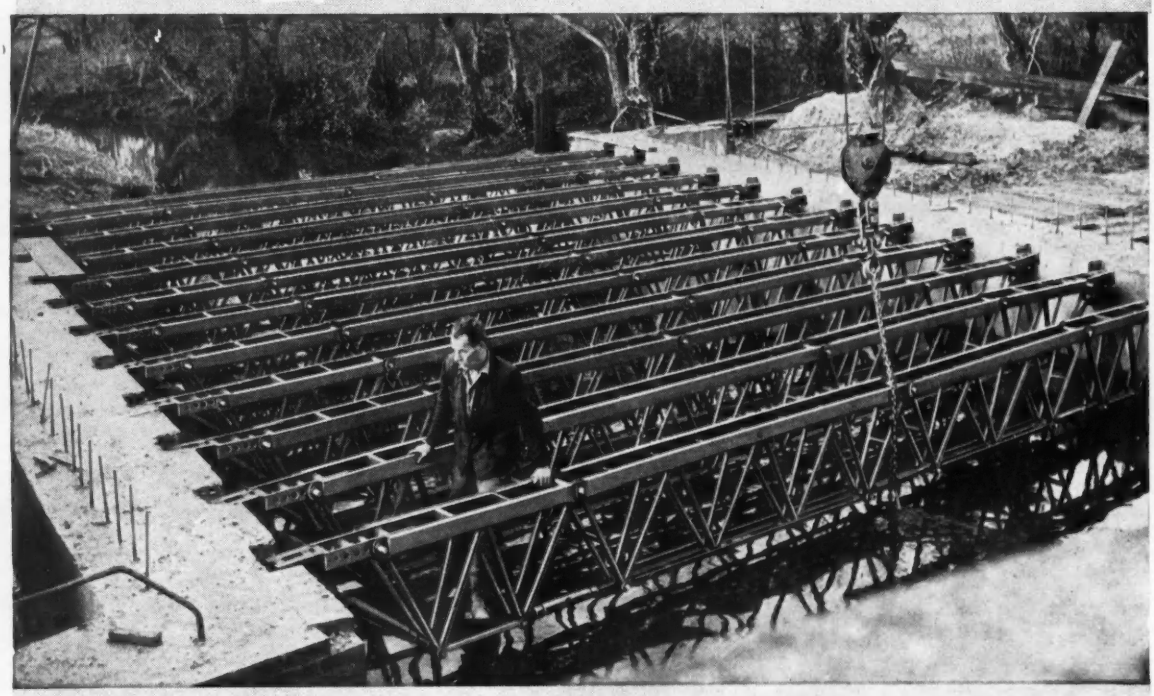

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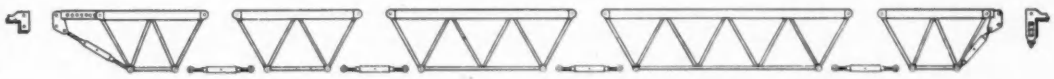

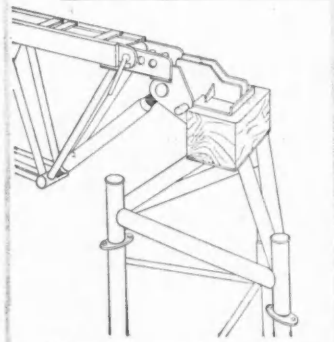

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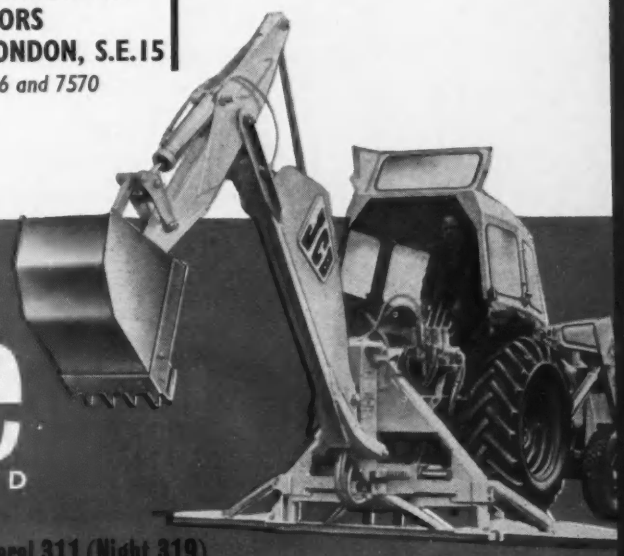

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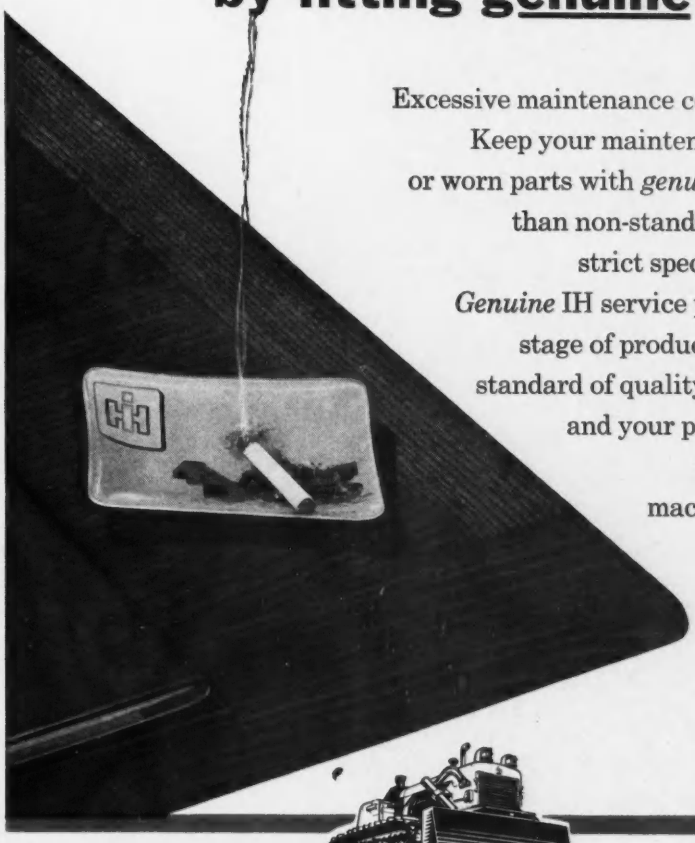

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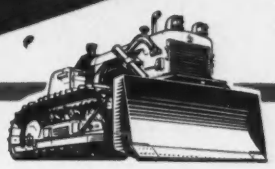

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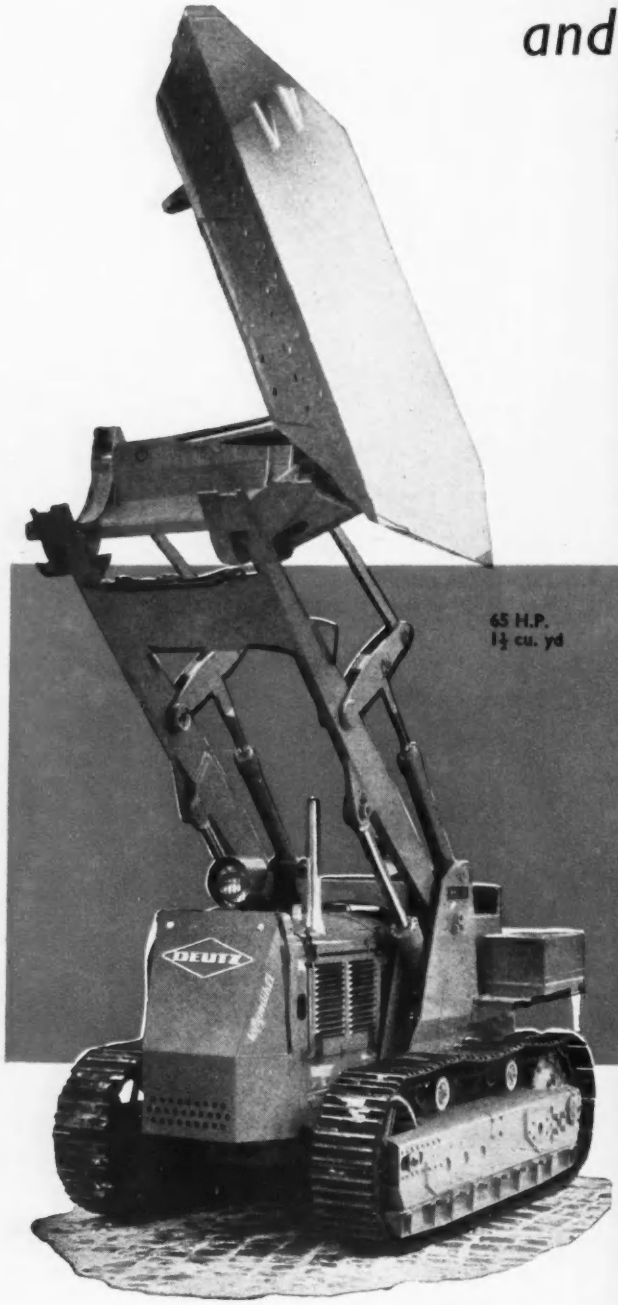

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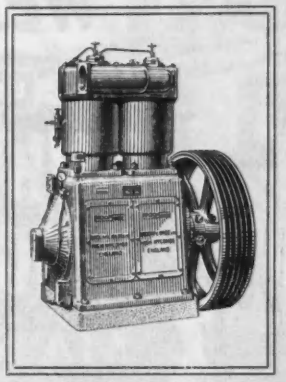

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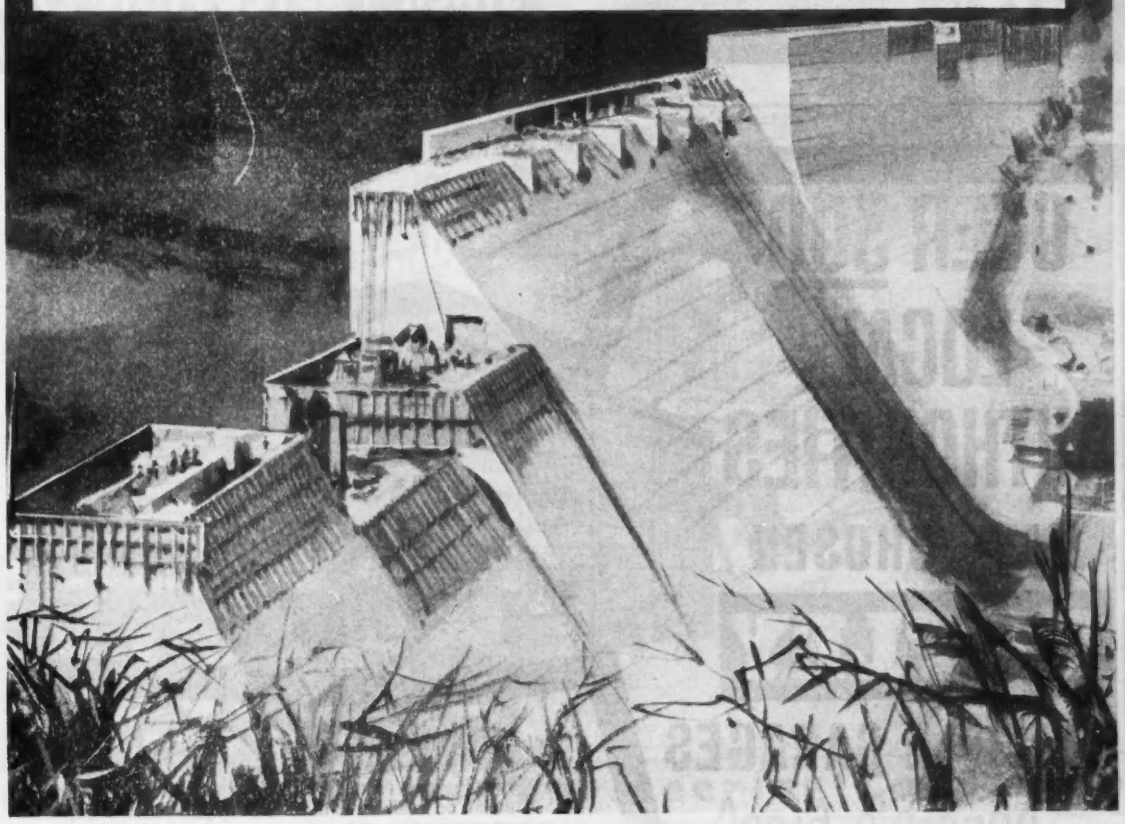

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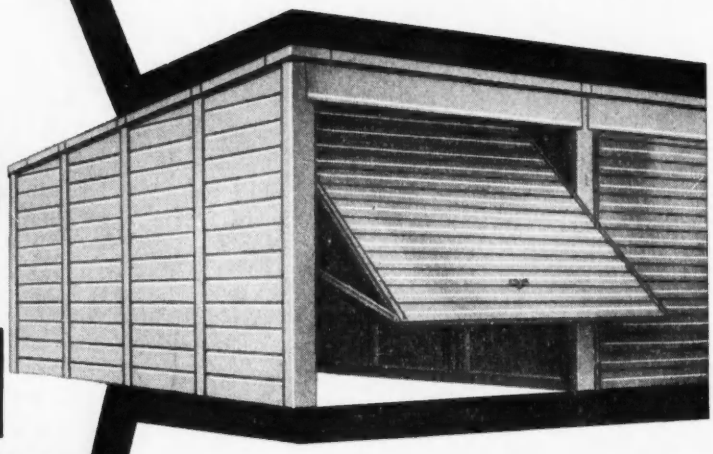

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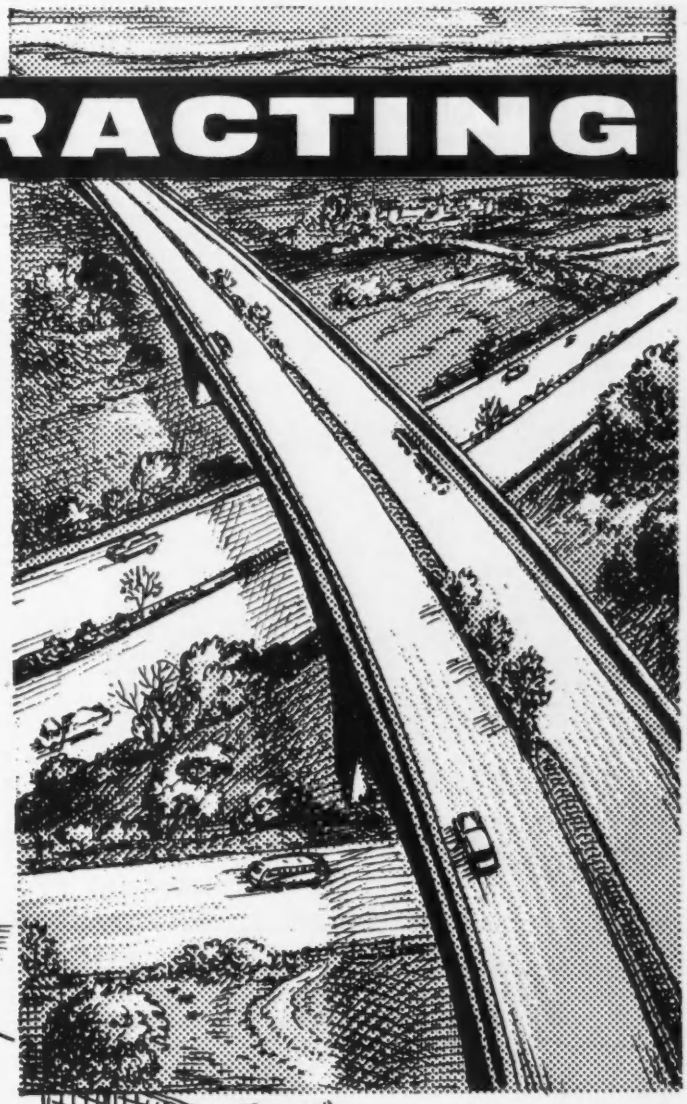

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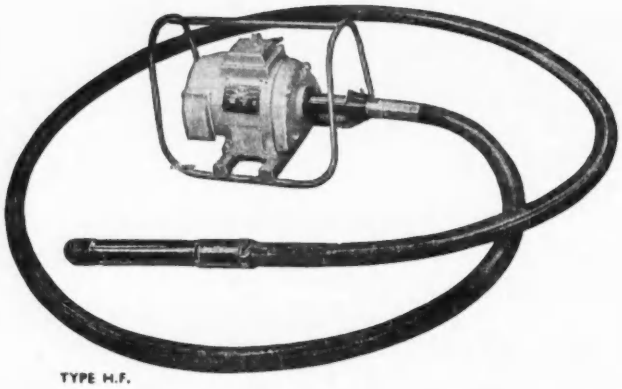

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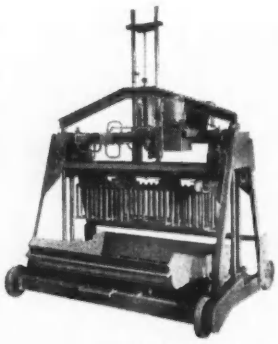

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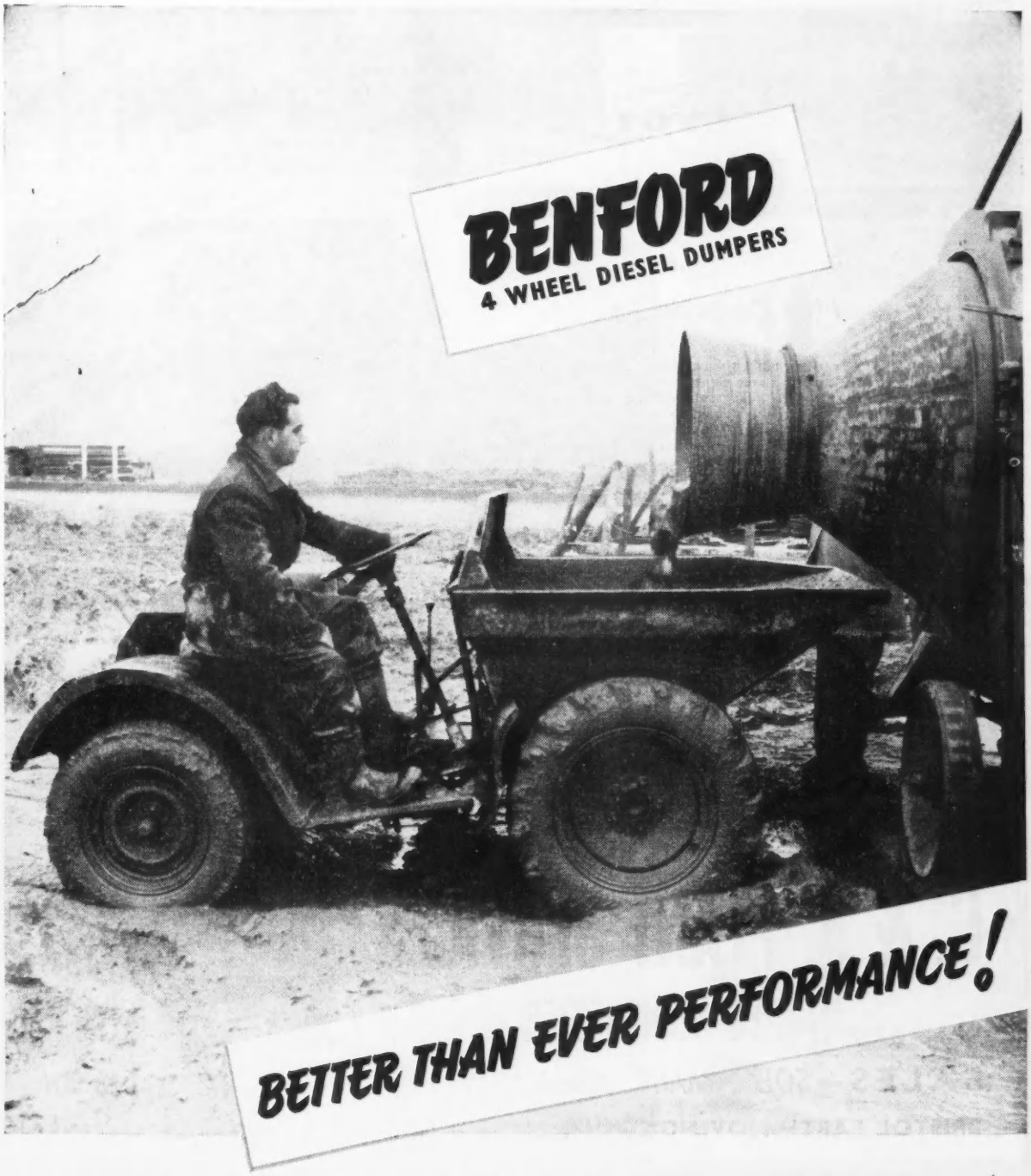

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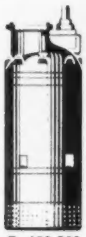
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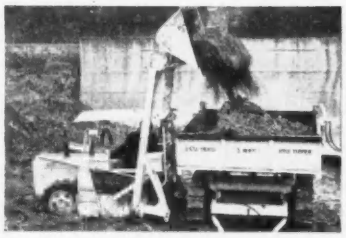

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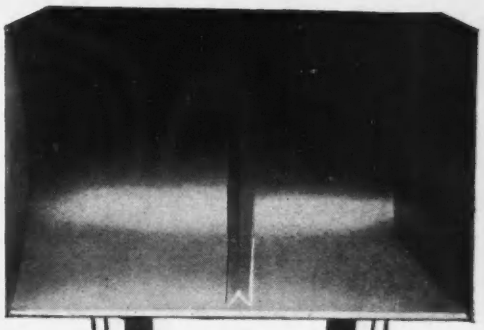

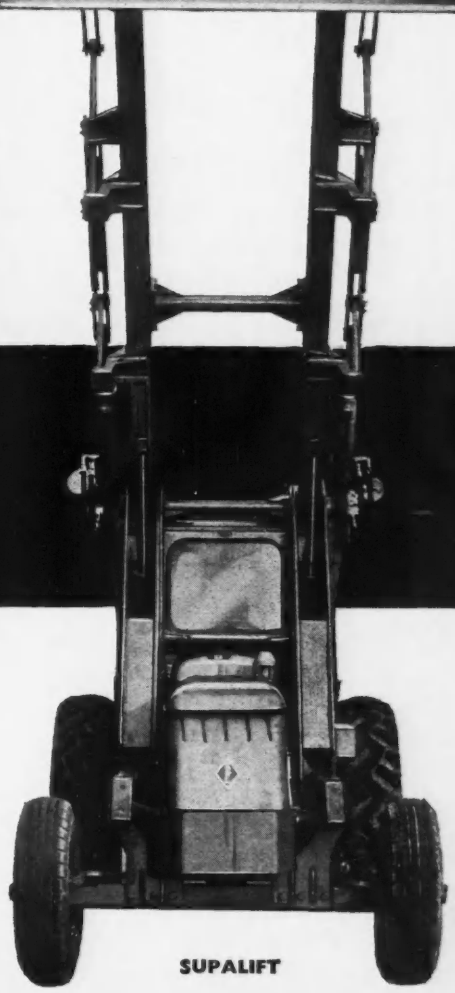

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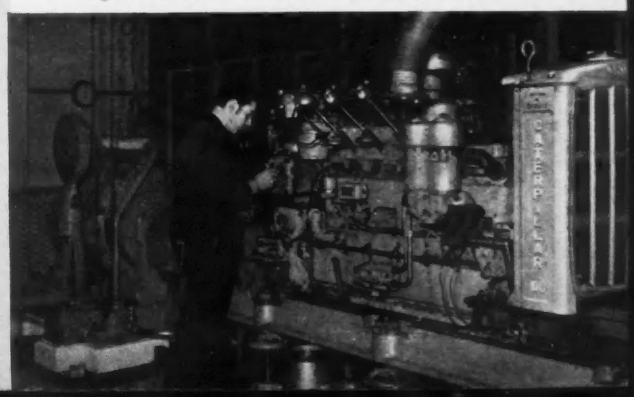

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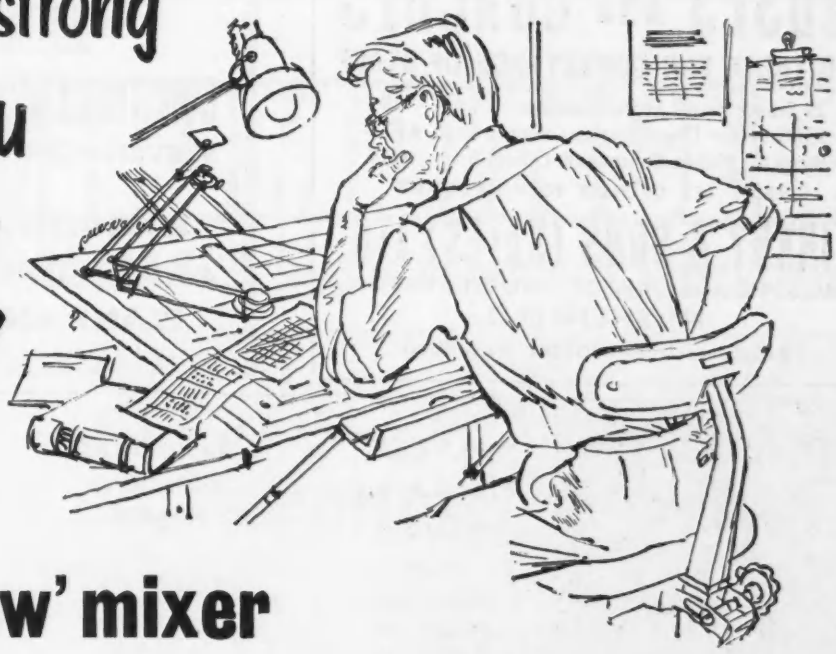

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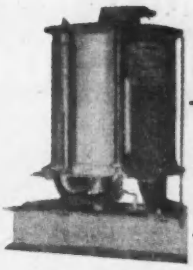

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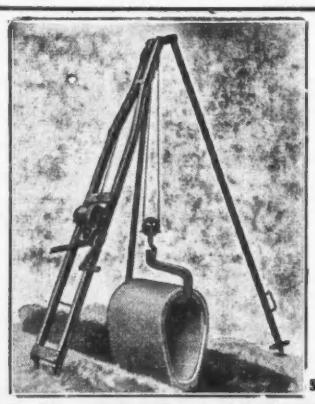

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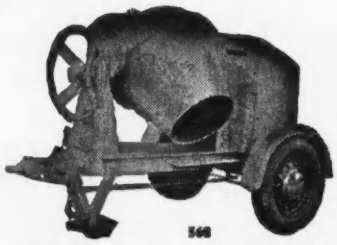

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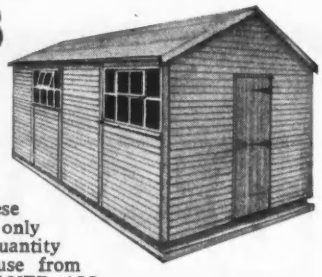

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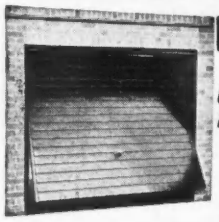

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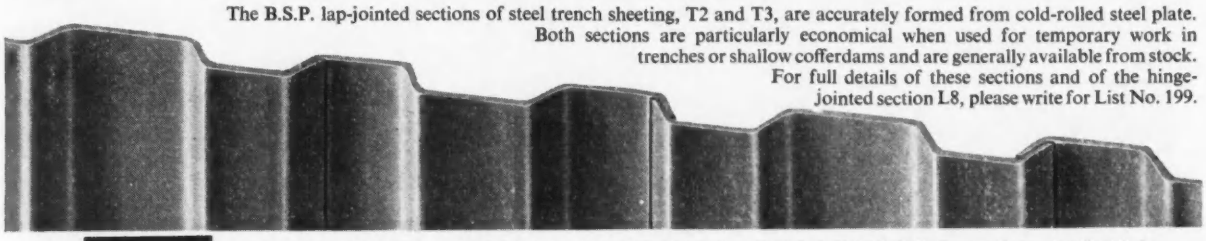

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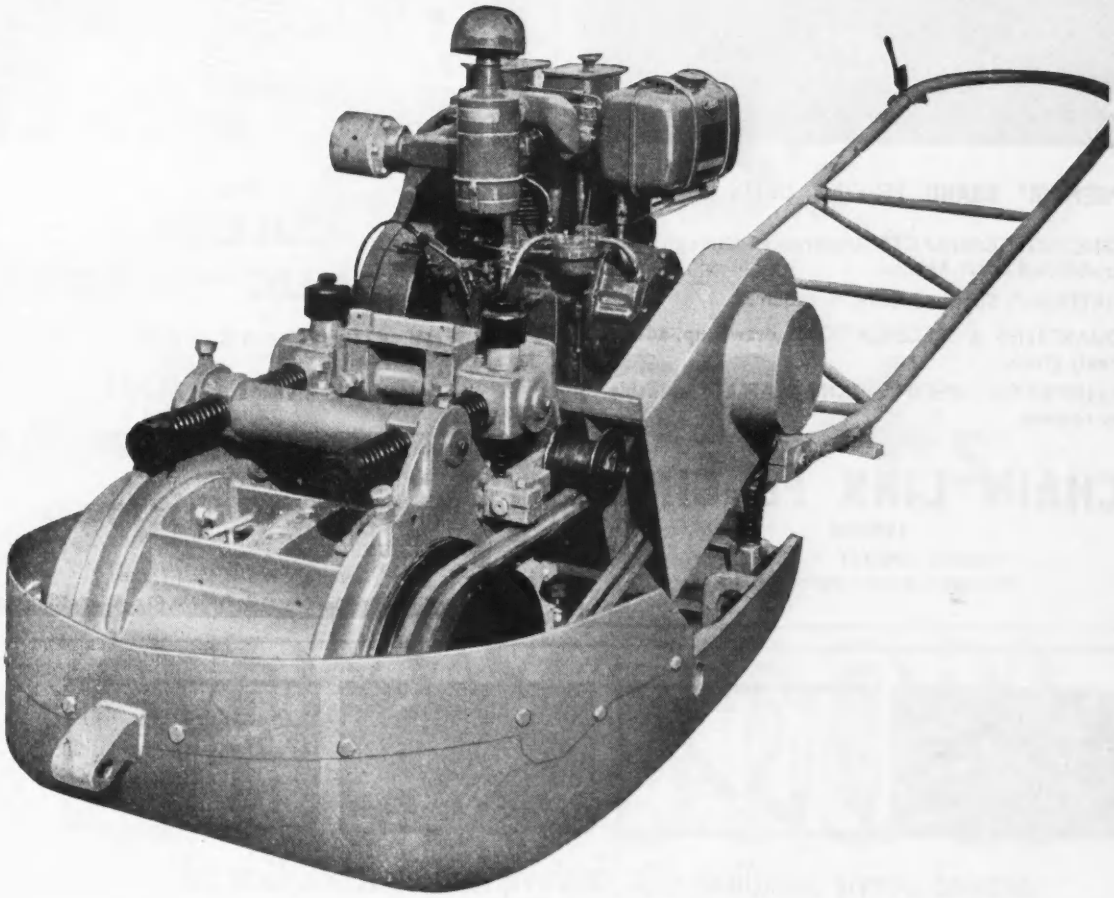

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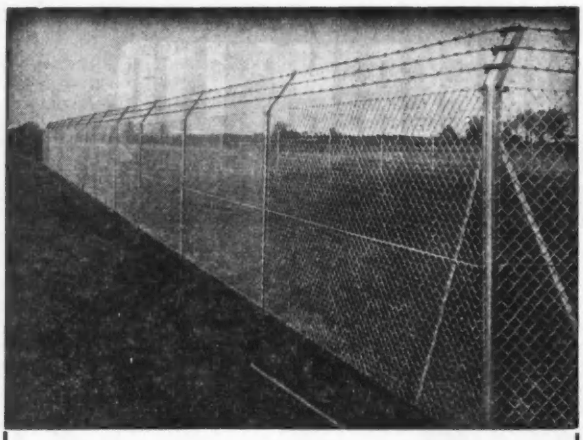

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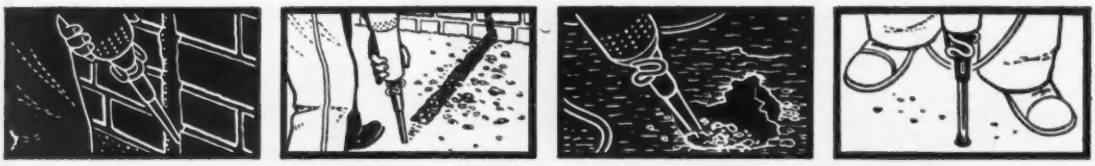

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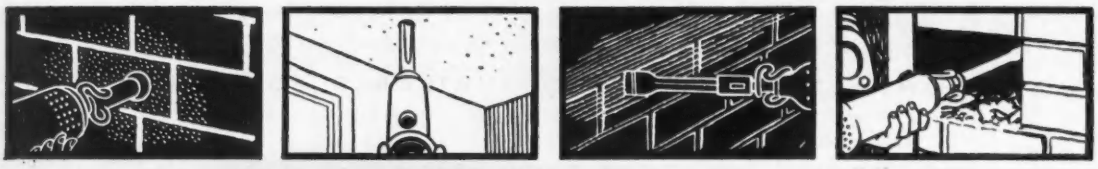

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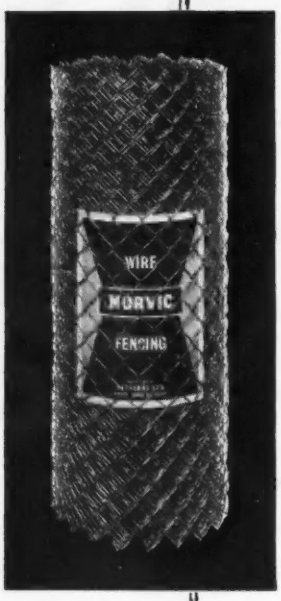

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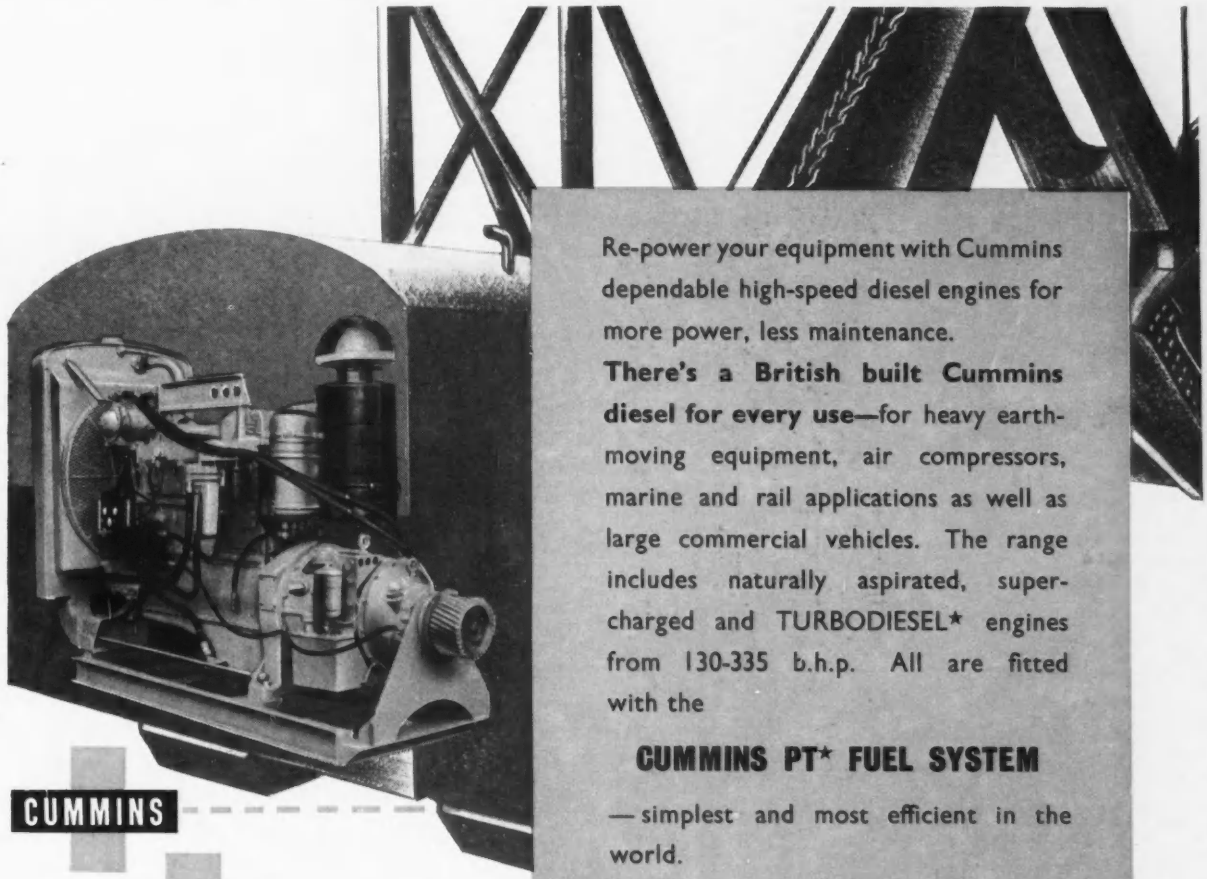

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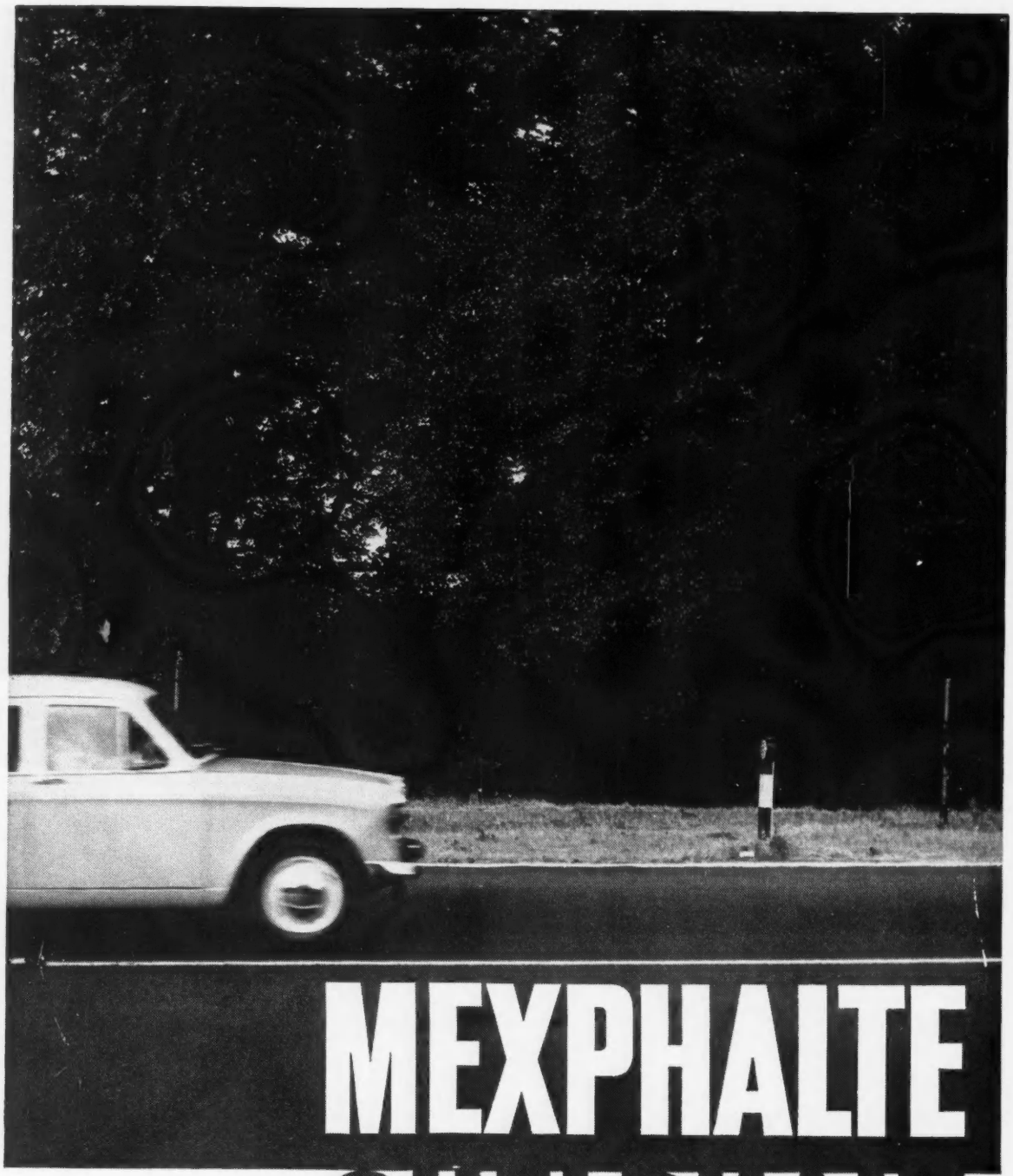

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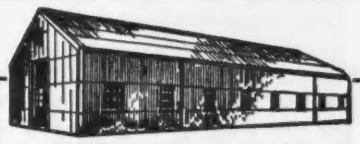
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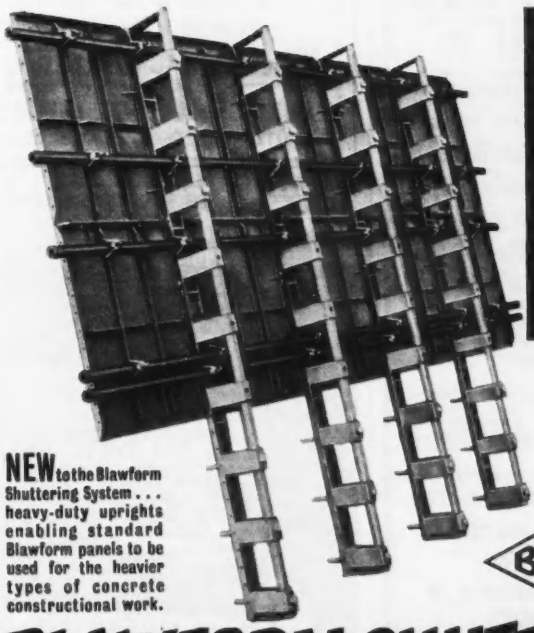

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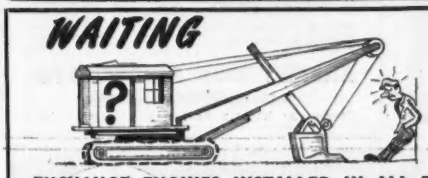

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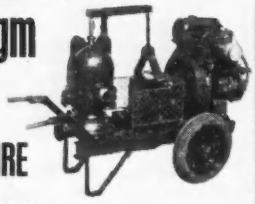

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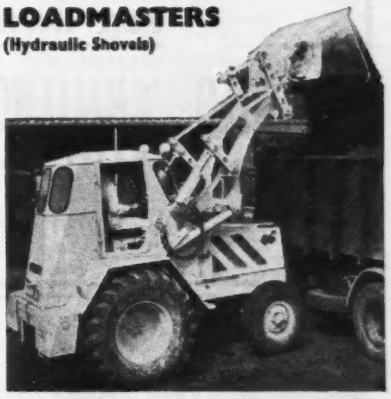

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New ex Ministry Spares, including new D6 Tracks, Scraper Tyres, etc., Logging and Double Drum P.C.U., for all makes.
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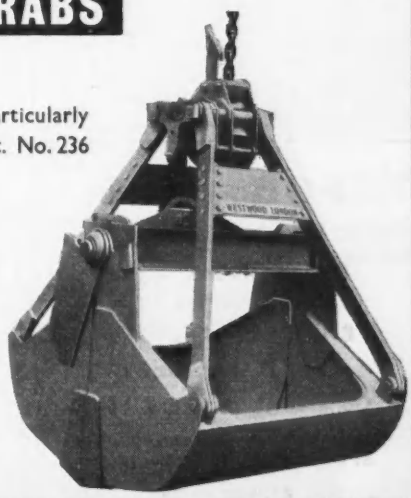

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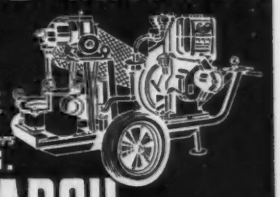

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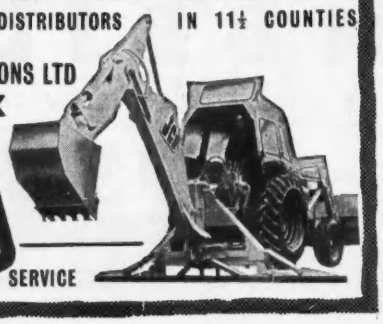

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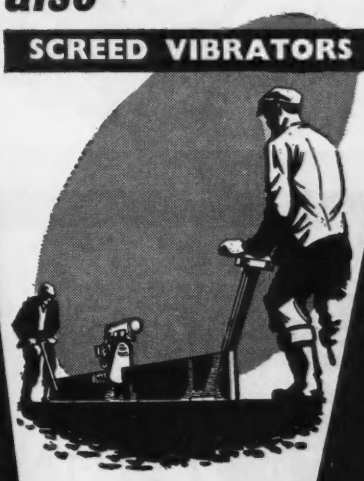

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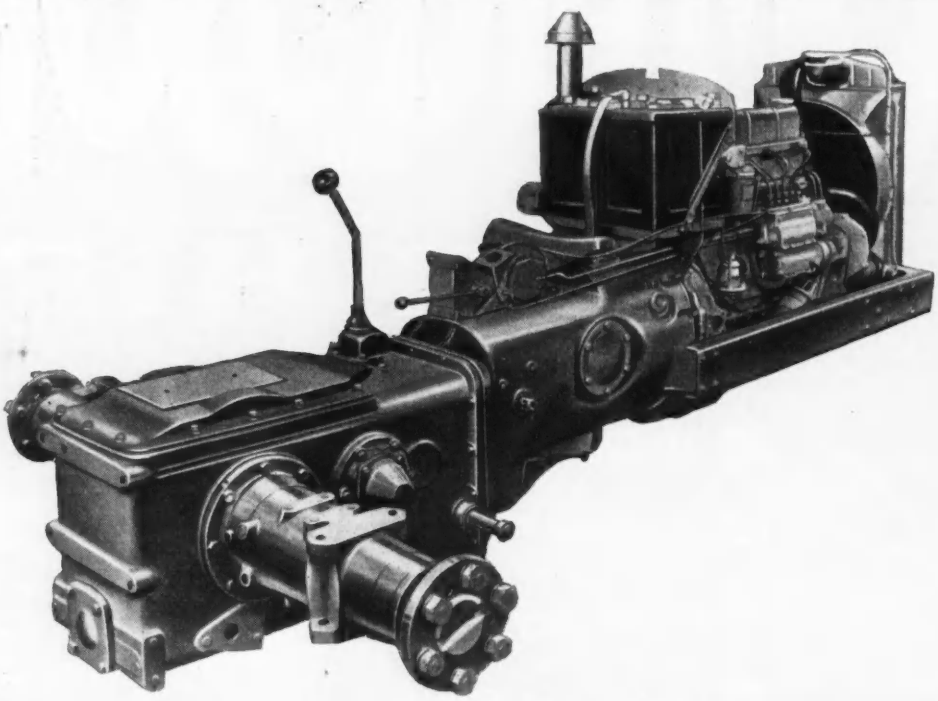

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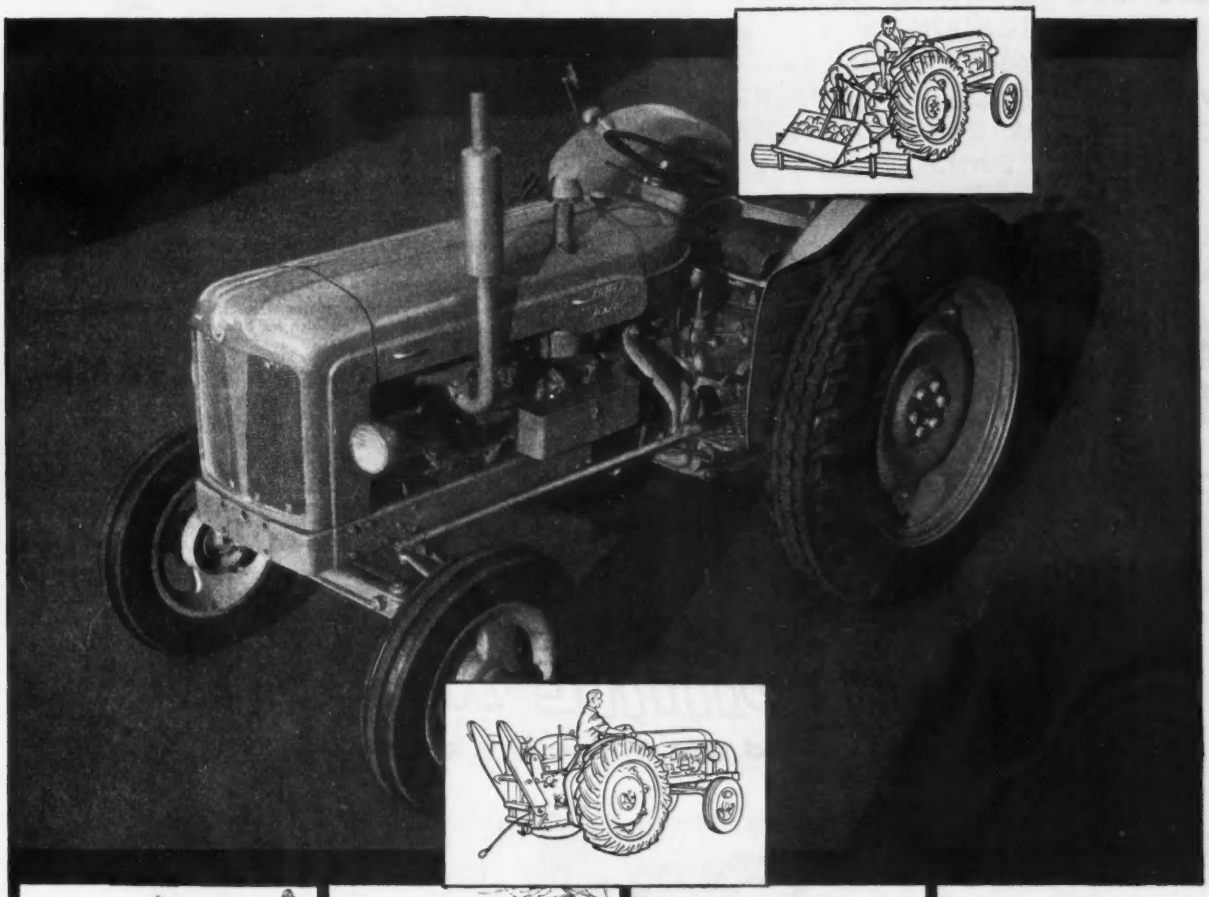

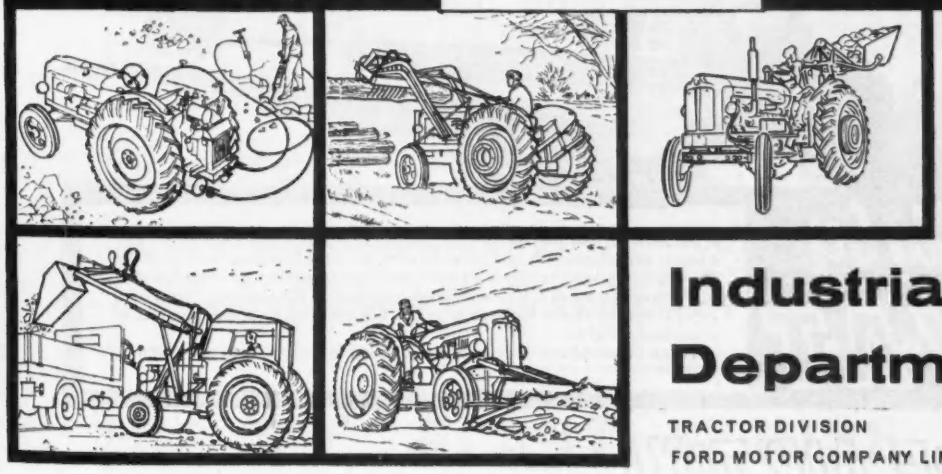

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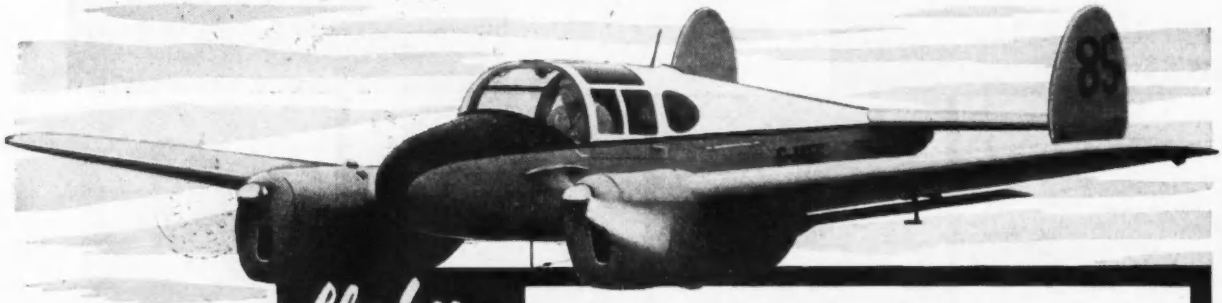

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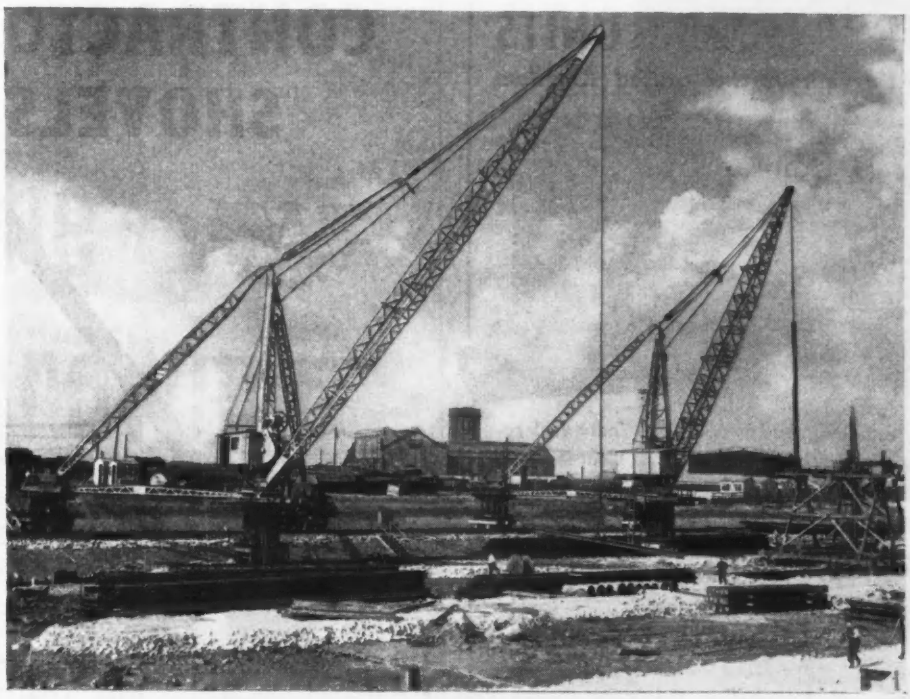

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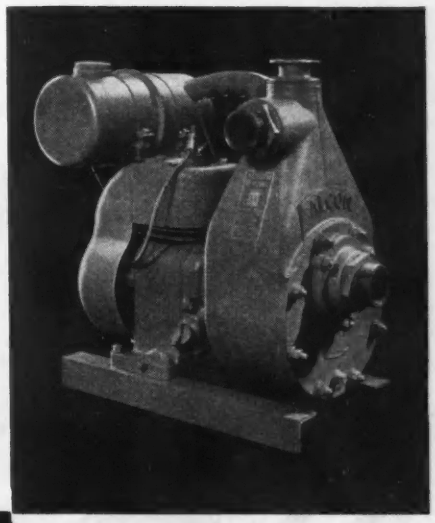

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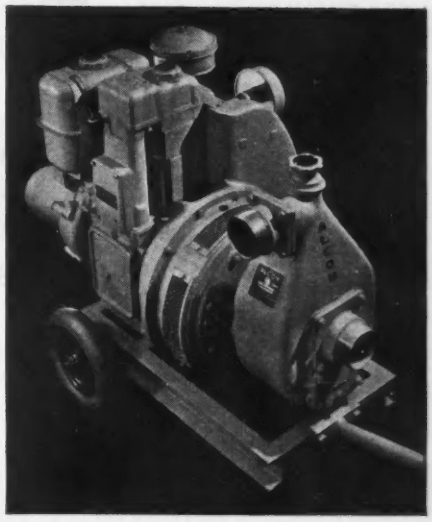

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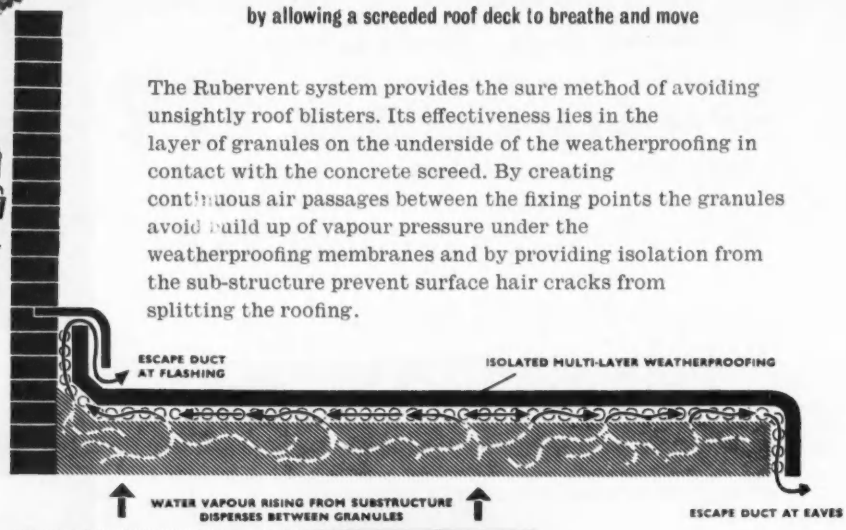

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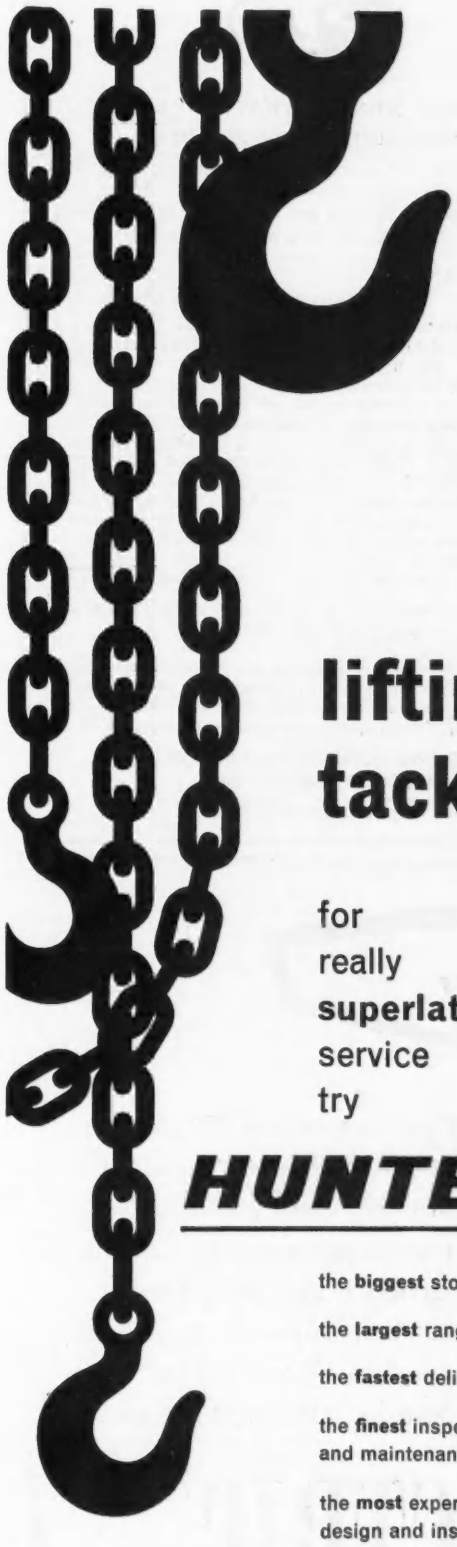

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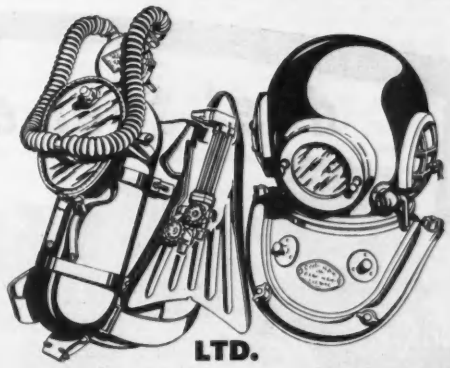

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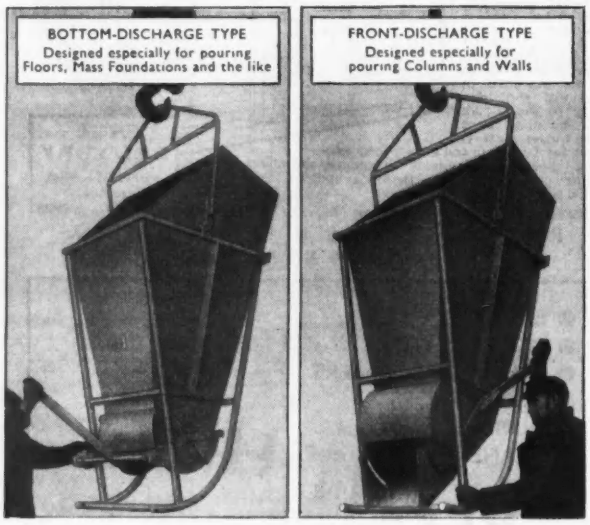

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3 STANDARD SIZES: ¼, ½ and 1 cubic yard:
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Full details, prices and hire-rates from: **ACROW (ENGINEERS) LTD.**
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MANAGEMENT CONSULTANTS

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WILSON LOVATT AND SONS LTD., the well-known century-old public company engaged on all types of Civil Engineering and Building work throughout the United Kingdom, require a first-class Plant Manager on their Head Office staff at Wolverhampton. He would be responsible for advising the Company on the choice and purchase of plant, on its valuation and depreciation, for the maintenance and servicing of a wide range of existing plant and equipment, for co-ordination with estimators and advice to agents. Candidates, around 40, must have sound mechanical knowledge of Contractors' plant, performances, combined with organising ability and managerial personality. A good salary is offered with participation in the Company's Pension and Bonus Schemes. (Ref. 1383/CJ.)

The identity of candidates will not be revealed to our clients without their prior permission.

For the convenience of clients and candidates we have Regional Offices in **Glasgow, Manchester, Bristol** *and* **Birmingham** *but, in the first instance, applicants should forward brief details, quoting the reference number, to:*

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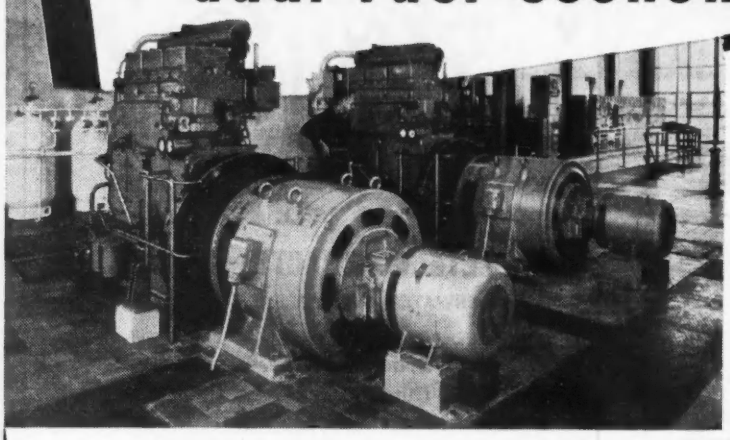
2 ALBERT GATE, LONDON, S.W.1

dual-fuel economy



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DE.92

CONTRACTS

FLINTSHIRE COUNTY COUNCIL.

CONSTRUCTION OF NEW DUAL CARRIAGEWAY, AND BRIDGE OVER THE RIVER DEE, AT QUEENSFERRY.

TENDERS are invited for the CONSTRUCTION of 1.7 MILES of NEW DUAL CARRIAGEWAY and IMPROVEMENT of EXISTING CARRIAGEWAY between DROME CORNER, SEALAND, and QUEENSFERRY (including ancillary Drainage Works) and the CONSTRUCTION of a 410ft. THREE-SPAN BRIDGE over the RIVER DEE.

Tender documents and Drawings may be obtained from E. W. W. RICHARDS, Esq., A.M.I.C.E., A.M.I.Struct.E., A.M.I.Mun.E., County Surveyor and Bridgemaster, County Buildings, Mold, on or after 2nd May, 1960, on payment of a deposit of £25, returnable on receipt of a bona-fide Tender.

Tenders, endorsed "Queensferry Bridge and By-pass," to be returned to the undersigned by 15th JUNE, 1960.

The Council does not bind itself to accept the lowest or any Tender.

W. HUGH JONES,
Clerk of the County Council.

County Buildings,
Mold,
Flintshire.

BOROUGH OF ENFIELD.

BRANCH LIBRARY AND RATES COLLECTION OFFICE—PONDERS END, ENFIELD, MIDDLESEX.

Building contractors desirous of TENDERING for the ERECTION of the new BRANCH LIBRARY AND RATES COLLECTION OFFICE, COLLEGE COURT, HIGH STREET, Ponders End, Enfield, should apply to the Borough Engineer and Surveyor, MR. H. DERYCK PEAKE, M.Sc.(Eng.), M.I.C.E., 7 Little Park Gardens, Enfield, by First Post, TUESDAY, 19th April, 1960. Bills of Quantities and Forms of Tender will be forwarded on or about the 26th April, 1960.

All applications must be accompanied by a deposit of £2 2s., to be returned on receipt of a bona-fide Tender addressed to the undersigned, and/or the return of all documents.

Plans and Conditions of Contract may be inspected at the Offices of the Borough Engineer as aforesaid on or after the 27th APRIL, 1960, on Mondays to Fridays, between the hours of 9 a.m. and 12.30 p.m.

Tenders must reach the undersigned not later than Noon on TUESDAY, the 17th May, 1960, and no Tender will be received except in a plain envelope which must be sealed and must bear the words "Tender for Branch Library and Rates Collection Office, College Court, High Street, Ponders End, Enfield," but shall not bear any name or mark indicating the sender.

The Council do not bind themselves to accept the lowest or any Tender.

Contractors tendering will be required to submit particulars of similar works which have been carried out by them.

CYRIL E. C. R. PLATTEN,
Town Clerk.

Public Offices,
Enfield, Middx.

CITY OF SALFORD.

PROPOSED KITCHEN EXTENSION AT BROUGHTON JEWISH PRIMARY SCHOOL, PARK LANE, SALFORD, 7.

FIRM-PRICE TENDERS are invited for the CONSTRUCTION of a KITCHEN EXTENSION at Broughton Jewish Primary School, Park Lane, Salford, 7.

Conditions of Contract and Drawings may be inspected at, and Bill of Quantities and Form of Firm-price Tender obtained from, the City Engineer and Surveyor's Department, Town Hall, Salford, 3, on payment of a deposit of £2 2s., which will be returned on submission of a bona-fide Firm-price Tender not subsequently withdrawn.

Firm-price Tenders, on the prescribed form, sealed in the envelope provided and bearing no other mark or identification, must be forwarded to the undersigned so as to be received not later than 10 a.m. on MONDAY, 25th April, 1960.

The Council does not bind itself to accept the lowest or any Firm-price Tender.

R. RIBBLESDALE THORNTON,
Town Clerk.

PETERSFIELD URBAN DISTRICT COUNCIL.

CENTRAL CAR PARK—PETERSFIELD.

TENDERS are invited for the CONSTRUCTION of ROADS, SEWERS and CAR PARK at the ABOVE SITE.

Tender documents may be obtained from J. THOMAS, A.M.I.C.E., Engineer and Surveyor, Town Hall, Petersfield, upon payment of £2 2s., which will be refunded on receipt of a bona-fide Tender not subsequently withdrawn.

Tenders must be returned to the undersigned, in a sealed envelope endorsed "Central Car Park," not later than Noon on MONDAY, 9th May, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

H. H. CREEDON,
Clerk of the Council.

Town Hall,
Petersfield, Hants.

ISLE OF AXHOLME RURAL DISTRICT COUNCIL.

HAXEY SEWERAGE SCHEME.

CONTRACTS NOS. 1 AND 2

TENDERS are invited for the FOLLOWING:

CONTRACT NO. 1.—The Construction of a Sewage Treatment Works, a Sewage Pumping Station and approx. 640yd. of 9in. dia. Concrete Pipe Sewers and approx. 500yd. of 5in. dia. Asbestos-cement Rising Main, at Haxey, Lincolnshire.

CONTRACT NO. 2.—Supply and Erect Duplicate Centrifugal, Electrically Operated Unchokeable Sewage Pumps each of 120 gallons per minute output and one Electrically Operated 50 gallons per minute Sludge Pump.

Contractors wishing to tender should apply for the documents and Drawings to the Council's Consulting Engineers, JOHN H. HAISTE AND PARTNERS, Belmont House, 20 Wood Lane, Headingley, Leeds, 6, enclosing a deposit cheque value Three Guineas, made payable to the Isle of Axholme Rural District Council, such deposit to be refunded upon receipt of a bona-fide Tender and the return of all documents and Drawings.

Tenders, with the Bills of Quantities priced in ink, are to be submitted to the undersigned not later than 12 Noon on 28th APRIL, 1960.

The Council do not bind themselves to accept the lowest or any Tender they may receive.

S. W. CHESTER,
Clerk to the Council.

The Gables,
Epworth,
Doncaster.
23rd March, 1960.

BOROUGH OF SHREWSBURY.

MONKMOOR SEWAGE WORKS RECONSTRUCTION.

MACHINERY CONTRACTS.

TENDERS are invited for the SUPPLY and ERECTION of the FOLLOWING ITEMS OF MACHINERY:

CONTRACT NO. 1.—Two Mechanical Screens and One Screenings Disintegrator.

CONTRACT NO. 2.—Two Mechanical Scrapers for 80ft. dia. Sedimentation Tanks.

CONTRACT NO. 3.—Two Mechanical Scrapers for 80ft. dia. Humus Tanks.

CONTRACT NO. 4.—One Transferable Mechanical Scraper for Rectangular Storm Water Settling Tanks each 126ft. x 31ft. 6in. internal.

CONTRACT NO. 5.—Equipment for Heated Sludge Digestion.

Contract documents for each Contract may be obtained from the Borough Surveyor, Guildhall, Shrewsbury, on payment of a deposit of £2 2s. (each), returnable on receipt of a bona-fide Tender.

Sealed Tenders, in a plain envelope endorsed as instructed, to be returned to the undersigned not later than Noon on MONDAY, 9th May, 1960.

S. R. H. LOXTON,
Town Clerk.

Guildhall,
Shrewsbury.

CITY OF WORCESTER.

ANNUAL ROAD SURFACE DRESSING CONTRACT (1960).

TENDERS are invited for the SUPPLY and APPLICATION of approx. 23,500 gallons of TAR BITUMEN, and the TRANSPORT, SPREADING and ROLLING of ¼in. STONE CHIPPINGS on approx. 117,000 sq. yd. of ROAD SURFACE within the city.

Tender documents are obtainable from the City Engineer, 22 Bridge Street, Worcester, upon deposit of Two Guineas, returnable on receipt of a bona-fide Tender.

Closing date: 5th MAY, 1960.

BERTRAM WEBSTER,
Town Clerk.

Guildhall,
Worcester.

CITY OF PETERBOROUGH.

FULBRIDGE ROAD MAJOR IMPROVEMENT—FROM MOUNTSTEVEN AVENUE TO WERRINGTON GREEN.

TENDERS are invited for the RECONSTRUCTION of approx. 8,500 sq. yd. of CARRIAGEWAY in ORDINARY and STABILISED HOGGIN BASE and TWO-COURSE GRAVEL ASPHALT, and other ancillary Works.

Full details and copies of the Contract documents may be obtained from MR. L. H. ROBJOHN, M.B.E., A.M.I.C.E., City Engineer and Surveyor, P.O. Box 10, Town Hall, Peterborough, on payment of a deposit of Two Pounds, which will be returned on receipt of a bona-fide Tender not subsequently withdrawn. The Drawings may be inspected at the City Engineer's Office, Town Hall, Peterborough.

Tenders, in the special envelopes provided endorsed "Fulbridge Road Major Improvement," should be delivered by Noon on TUESDAY, 3rd May, 1960, to the undersigned.

C. PETER CLARKE,
Town Clerk.

Town Hall,
Peterborough.
April, 1960.

CANVEY ISLAND URBAN DISTRICT COUNCIL.

HIGHWAYS ACT, 1959.

CONTRACTS NOS. 7 AND 8.

REINFORCED CONCRETE CARRIAGEWAYS.

TENDERS are invited for the CONSTRUCTION of approx. 9,000 sq. yd. of REINFORCED CONCRETE CARRIAGEWAYS, Kerbs and Surface Water Drainage, in Private Streets within the Urban District.

Specification, Bills of Quantities and Forms of Tender may be obtained from the Engineer and Surveyor, Council Offices, Long Road, Canvey Island, on payment of a deposit of £3 3s., returnable on the receipt of a bona-fide Tender.

Drawings and General Condition of Contract may be inspected at the Council Offices during office hours.

Tenders, in plain sealed envelopes endorsed "Concrete Carriageways," must be delivered to the undersigned not later than THURSDAY, 19th May, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

J. RUMBLE,
Clerk of the Council.

Council Offices,
Long Road,
Canvey Island,
Essex.

BEESTON AND STAPLEFORD URBAN DISTRICT COUNCIL.

WIDENING OF DERBY ROAD (A.52) FROM WOLLATON VALE TO BRAMCOTE.

TENDERS are invited for the WIDENING and RECONSTRUCTION of the ABOVE ROAD, approx. 1½ miles in length, together with the CONSTRUCTION of a ROUNDABOUT.

The works include a Main Surface Water Sewer, Earthworks, Construction of Carriageway, Surfacing of Carriageways and Footpaths, Verges and ancillary works. The approx. quantities are as follows:—

Surface Water Sewer, 2,300 lin. yd.
Bulk Excavation, 52,000 cu. yd.
Kerbing and Channelling, 12,600 lin. yd.
Carriageway Works, 48,000 sq. yd.
Footpath Works, 15,000 sq. yd.

Fixed-price Tenders are requested for the work, and the period for the completion of the works is 21 months.

Contractors who have experience in the execution of works of this nature and who have the resources to complete the work in the required time, are invited to apply for copies of the tender documents to the Engineer and Surveyor, Town Hall, Beeston, Nottingham. Drawings may be inspected at the Office of the Engineer and Surveyor between 10 a.m. and 5 p.m. on weekdays.

A deposit of £5 is required with application for contract documents, returnabe upon receipt of a bona-fide Tender, not subsequently withdrawn.

Tenders must be delivered to the undersigned by Noon on MONDAY, 23rd May, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

H. D. JEFFRIES,
Clerk of the Council.

Town Hall,
Beeston,
Nottingham.

MERIONETH COUNTY COUNCIL.

HIGHWAYS AND BRIDGES DEPARTMENT.

TENDERS are invited for the SUPPLY of Two J. C. Bamford HYDRA-DIGGA/LOADALL 65 EXCAVATORS for delivery to the above Department in May, 1960.

Tenders, accompanied by maker's specification and other details, enclosed in a plain sealed envelope, endorsed "Tender—J.C.B. Plant," should reach the COUNTY CLERK, County Offices, Dolgellau, not later than MONDAY, the 25th April, 1960.

BOROUGH OF COLNE.

SURFACE DRESSING.

TENDERS are invited for SURFACE DRESSING approx. 73,200 super. yd. of ROADS. Specification and Form of Tender from Borough Engineer, Town Hall, Colne, Lancs. Tenders to be received by me not later than 9 a.m., 26th APRIL.

T. RUTTER,
Town Clerk.

BOROUGH OF COLNE.

HOT ROLLED ASPHALT SURFACING.

TENDERS are invited from experienced contractors for SURFACING with HOT ROLLED ASPHALT 8,850 super. yd. of TARMACADAM CARRIAGEWAY in CHURCH STREET (A.56), COTTONTREE LANE (B.6250), LORD STREET and RUSKIN AVENUE. Specification and Form of Tender from Borough Engineer, Town Hall, Colne, Lancs. Tenders to be received by me not later than 9 a.m., 26th APRIL.

T. RUTTER,
Town Clerk.

SWANSCOMBE URBAN DISTRICT COUNCIL.

DRAINAGE.

CONTRACT NO. 1.

The Swanscombe Urban District Council is prepared to receive TENDERS on a fixed-price basis for the CONSTRUCTION of the FOLLOWING WORKS:—

A Sewage Treatment Works consisting of:—
Screen Chambers and Recording Apparatus.
Two Settlement Tanks, capacity 37,500 gallons each.
Two Biological Filters, dia. 75ft.
Two Humus Tanks, capacity 12,500 gallons each.
Six Sludge Drying Beds, 51ft. 3in. x 30ft. each.
One Works Pumping Station.
The Reconstruction of existing Sludge Drying Beds.
All necessary Pipelines, Manholes, Ducts, Culverts, Roadways and other appurtenant works.

A Sewer consisting of:—
150 lin. yd. of 18in. dia. Concrete Pipes.
735 lin. yd. of 12in. dia. Concrete Pipes.
130 lin. yd. of 9in. dia. Concrete Pipes.
All necessary Manholes, Reinstatement and other appurtenant works.

All the works listed above shall be in accordance with the Drawings and the Specification prepared by the Engineers, Messrs. JOHN TAYLOR AND SONS, Artillery House, Artillery Row, Victoria Street, Westminster, London, S.W.1.

Copies of the Specification, Bill of Quantities and Form of Tender will be available on the 20th APRIL, 1960, and may be obtained from the Engineers' Office upon payment of £5 (cheque only, made payable to the Council), which will be returned upon receipt of a bona-fide Tender.

The Drawings may be inspected at the Offices of the Engineers or at the Council Offices, Swanscombe, Kent, during normal office hours. Copies of the Drawings may also be purchased from the Engineers on application.

Tenders, in plain sealed envelopes, endorsed "Swanscombe Drainage—Contract No. 1," should be delivered at my Offices on or before TUESDAY, the 17th of May, 1960.

The Council does not bind itself to accept the lowest or any Tender.

F. L. STURT,
Clerk of the Council.

Council Offices,
Swanscombe, Kent.

FRINTON AND WALTON URBAN DISTRICT COUNCIL.

REINFORCED CONCRETE RETAINING WALLS—SOUTHCLIFF AND CLIFF PARADE, WALTON-ON-NAZE.

TENDERS are invited for the CONSTRUCTION of: (a) a REVETMENT about 200ft. long, of Reinforced Concrete Bored Piles and Precast Planks, situate opposite the Memorial Gardens; and (b) an IN-SITU REINFORCED CONCRETE RETAINING WALL 60ft. long, carried on Bored Piles situate at Cliff Parade, both at Walton-on-Naze.

Drawings, Specification, Bills of Quantities and Forms of Tender can be obtained from, and Conditions of Contract inspected at, the Office of the Engineer and Surveyor, The Council House, Old Road, Frinton-on-Sea, on payment of Two Guineas, which will be returned on receipt of a bona-fide Tender and the return of all documents.

Tenders should be received by the undersigned not later than First Post on MONDAY, 2nd May, 1960, in a plain sealed envelope bearing no indication of the sender and endorsed "Retaining Walls—Walton-on-Naze."

The Council do not bind themselves to accept the lowest or any Tender.

J. P. McLARNEY,
Clerk of the Council.

The Council House,
Frinton-on-Sea.
30th March, 1960.

URBAN DISTRICT COUNCIL OF BIDDULPH.

SURFACE DRESSING OF ROADS.

The Council invite TENDERS for the SURFACE DRESSING of CARRIAGEWAYS within the URBAN DISTRICT, having a total area of approx. 17,000 sq. yd.

Tender documents may be obtained from the Surveyor and Water Engineer, Council Offices, Biddulph, Stoke-on-Trent, upon deposit of the sum of £1 1s. (cheques payable to the Biddulph Urban District Council), which sum will be returned upon receipt of a bona-fide Tender not subsequently withdrawn.

Tenders, in a plain sealed envelope bearing no mark or indication of the name of the sender, but endorsed "Tender for Surface Dressing," must be delivered to the undersigned by not later than First Post on MONDAY, 9th May, 1960.

The Council do not bind themselves to accept the lowest or any Tender received.

ROBERT W. TRACE,
Clerk of the Council.

Council Offices,
Biddulph.

CONTRACTS

NOTTINGHAMSHIRE COUNTY COUNCIL.

HIGHWAYS COMMITTEE.

TENDERS are invited for the PURCHASE of one HYDRAULIC LOADING SHOVEL with a 1948 Chaseside Rope-operated Shovel to be taken in part exchange.

Further particulars are obtainable from the County Surveyor, Shire Hall, Nottingham.

Completed Tenders are returnable, in the envelope to be provided, to the undersigned by SATURDAY, the 23rd April, 1960.

A. R. DAVIS,
Clerk of the County Council.

County Hall,
West Bridgford,
Nottingham.

BOROUGH OF STOURBRIDGE.

STREET LIGHTING, 1960.

TENDERS are invited for the PROVISION and INSTALLATION of 441 UNITS of CLASS "B" STREET LIGHTING.

Documents may be obtained from the undersigned on receipt of a deposit of Two Guineas.

Tenders, in plain sealed envelopes endorsed "Street Lighting, 1960," by Registered Post to the Town Clerk, Council House, Stourbridge, not later than Noon, FRIDAY, 29th April, 1960.

The Council does not bind itself to accept the lowest or any Tender. The acceptance of a Tender is subject to Ministry approval.

H. W. MORRIS, B.Sc.(Eng.), A.M.I.C.E.,
Borough Engineer and Surveyor.

Council House,
Stourbridge.
5th April, 1960.

BOROUGH OF STOURBRIDGE

TENDERS are invited for the FOLLOWING WORKS, which will be let as separate Contracts:

(a) Reconstruction of Grange Road (part)—220 lin. yd.
(b) Reconstruction of Grange Lane (part)—120 lin. yd.
(c) Surface Reconstruction of The Broadway (part)—300 lin. yd.
(d) Trench Reinstatements—approx. 6 miles.

Documents may be obtained from the undersigned on receipt of a deposit of Two Guineas in respect of each.

Tenders, in plain sealed envelopes, appropriately endorsed, by Registered Post to the Town Clerk, Council House, Stourbridge, not later than Noon, FRIDAY, 29th April, 1960.

The Council does not bind itself to accept the lowest or any Tender.

H. W. MORRIS, B.Sc.(Eng.), A.M.I.C.E.,
Borough Engineer and Surveyor.

Council House,
Stourbridge.
5th April, 1960.

URBAN DISTRICT COUNCIL OF RAYLEIGH.

TENDERS are invited for a Massey-Ferguson FE35 SEMI-INDUSTRIAL TRACTOR, all as specified in a Schedule which may be obtained, together with General Conditions of Contract and Form of Tender, from the Office of the Engineer and Surveyor, Council Offices, Rayleigh, Essex.

Completed Tenders, in the envelope provided, to be returned to the undersigned not later than Noon on FRIDAY, 29th April, 1960.

C. E. FITZGERALD,
Clerk of the Council.

Council Offices,
Hockley Road,
Rayleigh, Essex.
6th April, 1960.

THE URBAN DISTRICT COUNCIL OF KENILWORTH.

SOIL AND SURFACE WATER SEWERS AND KERBING.

FIXED-PRICED TENDERS are invited for the FOLLOWING WORK:—

Providing New Kerb in Part, Take Up and Relay Kerb in Part, approx. 7,000 lin. yd.
Excavate for, Provide and Lay 75 lin. yd. 6in., 700 lin. yd. 9in., 600 lin. yd. 12in., and 700 lin. yd. 15in. in Stoneware, Concrete and Iron Pipes.
Construct Steel-framed Footway to Existing Road Bridge.

Specification, Bills of Quantities and Form of Tender may be obtained from the Surveyor, The Council House, Kenilworth.

Tenders to be submitted in plain sealed envelopes endorsed "Road and Sewer Works," to be delivered to the undersigned not later than SATURDAY, 23rd APRIL, 1960.

The Council does not bind itself to accept the lowest or any Tender.

JAS. C. WHITTAKER,
Clerk of the Council.

The Council House,
Kenilworth.
5th April, 1960.

HELMSLEY RURAL DISTRICT COUNCIL.

SCAWTON, COLD KIRBY AND OLD BYLAND WATER.

The Council invite TENDERS for the FOLLOWING:

CONTRACT No. 1.—The Supply and Laying of 11,000yd. of 4in., 3in. and 2in. Spun-Iron and Asbestos-Cement Main, together with the Construction of a small Pumping Station, a Covered Service Reservoir (15,000 gallons) and appurtenant works.

CONTRACT No. 2.—The Provision and Erection of Electrically operated Pumping Plant, in duplicate, each pump set being capable of 2,400 gallons per hour against a total head of 330ft.

Forms of Tender, Specification, Bill of Quantities, etc., may be obtained from the Council's Consulting Engineers, ARNOLD BROOKSBANK AND SON, 48 Sunbridge Road, Bradford, 1, Yorkshire, on payment of a deposit of £5 5s. (by cheque, payable to the Helmsley R.D.C.) for each contract.

Drawings may be seen at the Offices of the Consulting Engineer as above, or at the Council Offices, Helmsley.

Tenders are to be on a fixed-price basis.

Tenders, complete with priced Bill of Quantities, etc., enclosed in a plain sealed envelope, endorsed "Tender for Scawton, etc., Water—Contract No. 1" (or Contract No. 2, as the case may be), must be forwarded to reach me not later than Noon on FRIDAY, the 29th April, 1960.

The lowest or any Tender not necessarily accepted, any acceptance being subject to approval by the Ministry of Housing and Local Government.

R. A. LOWERY,
Clerk of the Council.

Council Offices,
Helmsley, York.

CONTRACTS

BOROUGH OF BRIDGWATER.

SURFACE DRESSING OF ROADS, 1960-61.

TENDERS are invited for HOT BITUMINOUS SURFACE DRESSING of approx. 90,000 sq. yd. of CARRIAGEWAY within the Borough.

The General Conditions of Contract may be inspected at the offices of the Borough Engineer, Town Hall, Bridgwater, from whom the Specification, Bill of Quantities and Form of Tender may be obtained on payment of a deposit of Two Guineas, which will be refunded on receipt of a bona-fide Tender and the return of all documents.

Tenders, in a plain sealed envelope endorsed "Surface Dressing, 1960-61," should be returned to the undersigned not later than 10 a.m. on SATURDAY, 23rd April, 1960.

The Council does not bind itself to accept the lowest or any Tender.

H. A. CLIDERO,
Town Clerk.

Town Hall,
Bridgwater.
5th April, 1960.

SHOREHAM-BY-SEA URBAN DISTRICT COUNCIL.

HIGHWAYS ACT, 1959, PART IX.
(CODE OF 1892.)

FRANKLIN ROAD.

The Council invites TENDERS for the MAKING-UP of Franklin Road. The main works involved are as follows: 1,150 sq. yd. of Footpaths Reconstruction; 950 sq. yd. of Verges; 150 lin. yd. o' new Kerbing; 460 sq. yd. of new Concrete Carriageway; minor S.W. Drainage, and other ancillary items.

The Contract Drawings and Conditions of Contract may be inspected, and the Contract documents obtained, at the Offices of the Council's Surveyor, MR. W. H. FRASER, M.I.Mun.E., St. Wilfrids, Shoreham-by-Sea, Sussex.

Tenders must be delivered to the undersigned, in plain sealed envelopes endorsed "Private Street Works—Franklin Road," and bearing no indication whatsoever of the sender, not later than 12 Noon on THURSDAY, 28th April, 1960.

The Council does not undertake to accept the lowest or any Tender.

R. H. DAVIES,
Clerk of the Council.

Town Hall,
Shoreham-by-Sea,
Sussex.
April, 1960.

BROMSGROVE URBAN DISTRICT COUNCIL.

BOURNHEATH SEWERAGE SCHEME—SECTION UNDER MOTORWAY—BUMBLE HOLE.

The Council invite TENDERS for the CONSTRUCTION of a short length of FOUL SEWER in pipes of larger diameter under the proposed new motorway at BOURNHEATH. The approx. quantities of work are as follows:—

150ft. lin. of 12in. dia. Asbestos-Cement Pipes, with Cast-Iron Detachable Joints, laid on Concrete Stools within a 48in. dia. Reinforced Concrete Pipe Duct, together with the Construction of Two Dual Manholes and all ancillary works.

Bills of Quantities and Specification may be obtained from the Engineer and Surveyor, Council House, Bromsgrove, on a deposit of £2 2s. The deposits will be refunded on receipt of a bona-fide Tender and the return of all documents.

General Conditions of Contract and Drawings may be inspected at the above Office.

Tenders, in plain sealed envelopes, endorsed "Bournheath Sewerage Scheme—Section under Motorway," are to be delivered to the undersigned not later than WEDNESDAY, 27th April, 1960.

The Council do not bind themselves to accept the lowest or any Tender, and any acceptance is subject to the approval of the Ministry of Housing and Local Government.

F. A. JESSOP,
Clerk to the Council.

Council House,
Bromsgrove.
4th April, 1960.

BROMSGROVE URBAN DISTRICT COUNCIL.

RESURFACING—BIRMINGHAM ROAD, STOURBRIDGE ROAD AND HIGH STREET FOOTPATH.

The Council invite TENDERS for the FOLLOWING WORKS:—

(1) Birmingham Road (Waterworks Office to Midland Red Garage).—Remove existing Asphalt Surfacing and Lay by machine 1½in. Rolled Asphalt.
(2) Stourbridge Road (Bewell Head to Broad Street).—Heat and Plane existing Surface and Lay by machine 1in. Rolled Asphalt.
(3) High Street (Northwest Side Mill Lane to Market Street).—Remove Mastic Surfacing from Footpath and Lay 1in. Mastic Surfacing.
(4) Patching small areas of Asphalt Carriageways.

Bills of Quantities and Specification may be obtained from the Engineer and Surveyor, Council House, Bromsgrove, on a deposit of £2 2s. The deposit will be refunded on receipt of a bona-fide Tender and the return of all documents.

General Conditions of Contract may be inspected at the same Office.

Tenders, in plain sealed envelopes, endorsed "Asphalt Surfacing," are to be delivered to the undersigned not later than First Post on WEDNESDAY, 27th April, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

F. A. JESSOP,
Clerk to the Council.

Council House,
Bromsgrove.
4th April, 1960.

RAMSBOTTOM URBAN DISTRICT COUNCIL.

The Council invites TENDERS for the SUPPLY of ONE AGRICULTURAL-TYPE TRACTOR. The vehicle must be equipped with the necessary lights and brakes for use on the public highway, and should incorporate a power take off.

Tenderers may submit alternative prices for different vehicles.

Tenderers should note that the Council are entitled to a "Fleet-users" allowance.

Tenders, enclosed in plain sealed envelopes endorsed "Tractor," shoud be returned so as to reach me not later than SATURDAY, 30th April, 1960.

F. BELLIS,
Clerk of the Council.

Council Offices,
Ramsbottom,
Via Bury.

CONTRACTS

ANGUS COUNTY COUNCIL.

CARMYLLIE/MONIKIE WATER SUPPLY.

CONTRACT NO. 6.

TENDERS are invited for SUPPLYING and LAYING approx. 1½ miles 3in. and 2in. dia. A.C. PIPES. Contract documents may be obtained from the Office of the County Engineer, County Buildings, Forfar, where Drawings may be seen. Tenders, marked "Carmyllie/Monikie Water Supply—Contract No. 6," are to be returned to the undersigned not later than 10 a.m. on MONDAY, 2nd May, 1960.

IAN A. MACKNIGHT,
County Clerk.

County Buildings,
Forfar.

DEVON COUNTY COUNCIL.

PILE FOUNDATIONS TO CLYST ST. MARY BRIDGES.

TENDERS are invited for the CASTING of in-situ PILES (casings to be left in) to form the piers and abutments of two bridges.

Particulars and Tender Forms (returnable by 16th MAY) from the COUNTY SURVEYOR, "Coaver," Topsham Road, Exeter.

COUNTY BOROUGH OF BLACKPOOL.

TENDERS (by 2.30 p.m., THURSDAY, 28th April, 1960) are invited for the CONSTRUCTION of approx. 740 lin. yd. of 36in. and 42in. dia. CONCRETE PIPE SEWER, and Nine MANHOLES, up to depths of 14ft., partly in the carriageway, in the MOSSOM LANE area. Particulars from Borough Surveyor (ARTHUR HAMILTON, B.Sc.), P.O. Box 17, Municipal Offices, Blackpool, on payment of £2 deposit.

BOROUGH OF EALING.

STREET LIGHTING—UXBRIDGE ROAD AND BOSTON ROAD—CLASS A.

Contract (a) Supply of 106 3 x 80 watt Fluorescent Lanterns, complete with Lamps, and 46 400 watt MBF/U Lanterns, complete with Control Gear and Lamps.
Contract (b) Supply and Erection of 150 25ft. Mounting Height Steel Columns.

Details obtainable from Borough Engineer, Town Hall, Ealing, W.5, on payment of £5 for each Tender, returnable on receipt of a bona-fide Tender.

Tenders to Town Clerk, Town Hall, Ealing, W.5, by Noon, 27th APRIL, 1960.

E. J. COPE-BROWN,
Town Clerk.

CITY AND COUNTY OF BRISTOL.

CITY ENGINEER AND PLANNING OFFICER'S DEPARTMENT.

TENDERS invited for the FOLLOWING:—

(a) Supply of:
Compressors.
Pedestrian-controlled Rollers.
Footpath Tandem Roller.
Tractor.
Gang Mower.
Tractor for Low-loader.
(b) Supply of Mixed Concrete.
(c) Supply and Laying of Hot Rolled Asphalt.

Forms of Tender and Specifications from CITY ENGINEER AND PLANNING OFFICER, Cabot House, Deanery Road, Bristol, 1, returnable by 28th APRIL.

CITY OF LEEDS.

HIGHWAYS DEPARTMENT.

The HIGHWAYS COMMITTEE of the LEEDS CITY COUNCIL invite TENDERS for:—

(a) KERBING, TARMACADAM and in-situ CONCRETE FOOTPATHS, TARMACADAM and CONCRETE CARRIAGEWAYS, etc., in the FOLLOWING PRIVATE STREETS:—
Footpath (Whitehall Road to Kirkdale Gardens).
Grange Park Road (Part 6).
Manston Approach (Part 1).
North Road (Part 1).
North Terrace.
Reinwood Avenue (Part 3).
(b) CONSTRUCTION, RECONSTRUCTION and SURFACING with FINE BITUMEN MACADAM sections of new and existing PLAY-GROUNDS in various schools.

Forms of Tender and Bills of Quantities may be obtained upon payment of a deposit of One Guinea, which amount will be returned upon receipt of a bona-fide Tender. Plans, Specifications and copies of the documents forming the contract may be inspected upon application to the Highways Engineer, 155 Kirkstall Road, Leeds, 4.

Tenders will be considered only when submitted sealed in the envelope provided, endorsed "Highways Department—Tender for Contractors' Works," and not bearing any name or mark indicating the sender.

Tenders must be delivered at the Town Clerk's Office (Committee Department), Room 57, Civic Hall, Leeds, 1, not later than 10 a.m. on THURSDAY, the 28th April, 1960.

The lowest or any Tender will not necessarily be accepted.

W. J. HISCOCK,
Highways Engineer.

April, 1960.

AMESBURY RURAL DISTRICT COUNCIL.

REGIONAL WATER SUPPLY—CONTRACT NO. 11

SHREWTON AREA.

TENDERS are invited from experienced public works contractors for the CONSTRUCTION of a 250,000-gallon SERVICE RESERVOIR in Reinforced Concrete, and for the Laying of approx. 2¼ miles of 8in. dia. Spun-iron Water Main, approx. ½-mile of smaller dia. mains, and incidental works.

Conditions of Contract, Specification, Form of Tender and Bills of Quantities, may be obtained from the Council's Consulting Engineers, MESSRS. LEMON AND BLIZARD, Telford House, Hulse Road, Southampton, upon payment of a deposit of £3 3s., which will be returned on receipt of a bona-fide Tender and the return of all documents (deposit cheques to be made payable to the Rural District Council).

The Contract Drawings may be inspected at the Council Offices or at the Offices of the Consulting Engineers.

Tenders, on the form supplied, together with a priced copy of the Bills of Quantities, should be delivered to me, in a plain sealed envelope endorsed "Tender—Regional Water Supply—Contract No. 11," before Noon on WEDNESDAY, 11th May, 1960.

The Council does not bind itself to accept the lowest or any Tender.

E. M. NOTTAGE,
Clerk to the Council.

Redworth House,
Amesbury, Wilts.
5th April, 1960.

CONTRACTS

FARNBOROUGH URBAN DISTRICT COUNCIL.

144 GARAGES.

TO ROAD CONTRACTORS.

TENDERS are invited for the CONSTRUCTION of CONCRETE BASES for 144 Garages on various of the Council's Housing Estates, together with Retaining Walls, Carriageways, Surface Water Drains, and other incidental works.

Specification, Bills of Quantities, Form of Tender can be obtained from the Council's Engineer and Surveyor upon payment of a deposit of Two Pounds, which will only be refunded on receipt of a bona-fide Tender and the return of all documents.

Drawings can be inspected at the Office of the Engineer and Surveyor, Municipal Offices, Alexandra Road, Farnborough, Hants., during normal working hours.

Sealed Tenders, endorsed "Concrete Bases for 144 Garages," are to be forwarded, in the envelope provided, to reach the undersigned not later than First Post on MONDAY, 23rd May, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

D. STUART JONES,
Clerk of the Council.

Town Hall,
Farnborough,
Hants.
5th April, 1960.

FARNBOROUGH URBAN DISTRICT COUNCIL.

ERECTION OF GARAGES.

TENDERS are invited for the SUPPLY, DELIVERY and ERECTION on Ready Prepared Concrete Bases, of 144 PREFABRICATED GARAGES on various of the Council's Housing Estates, as FOLLOWS:

17 Garages—Beech Road.
20 " —Birchett Road.
59 " —Blackthorn Crescent.
25 " —Churchill Crescent.
23 " —Clayton Road/Neville Duke Road.

Firms wishing to tender are to make application to the Council's Engineer and Surveyor, Municipal Offices, Alexandra Road, Farnborough, Hants., for Form of Tender and further details.

Sealed Tenders, endorsed "Supply of Garages," are to be forwarded, in the envelope provided, to reach the undersigned not later than First Post on MONDAY, 23rd May, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

D. STUART JONES,
Clerk of the Council.

Town Hall,
Farnborough,
Hants.
5th April, 1960.

UTTOXETER URBAN DISTRICT COUNCIL.

REPAIR OF FIRE DAMAGE AT THE OLD BREWERY, HIGH STREET, UTTOXETER.

TENDERS are invited from suitable contractors for the REPAIR of FIRE DAMAGE to an OLD MALTINGS, mainly involving the Supply and Fixing of 608 sq. yd. of Precast Reinforced Concrete Flooring Beams.

Conditions of Contract, Specification and Forms of Tender may be obtained on application to the Surveyor to the Council, on deposit of the sum of £2 (Two Pounds), which will be returned on receipt of a bona-fide Tender not subsequently withdrawn, and the return of all documents supplied.

Tenders, in plain sealed envelopes endorsed "Tender—Fire Damage," are to be delivered to the undersigned not later than 12 Noon on 3rd MAY, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

JOHN H. KENNY,
Clerk to the Council.

Council Offices,
Old Bank House,
High Street,
Uttoxeter, Staffs.
4th April, 1960.

BENFLEET URBAN DISTRICT COUNCIL.

RESURFACING OF ROADS.

TENDERS are invited for the SUPPLY, DELIVERY, LAYING and CONSOLIDATING of some 750 tons of BITUMINOUS GRAVEL MACADAM and Sealing with Bituminous Grit, on Various Roads in the Urban District.

Particulars and Tender Forms may be obtained from the Engineer and Surveyor at these Offices on payment of £1 deposit.

Tenders, endorsed "Tender for Resurfacing Roads," should be submitted in plain sealed envelopes to reach the undersigned not later than Noon on 6th MAY.

D. GRUDGINGS.
Clerk of the Council.

Council Offices,
Thundersley,
Essex.

BRENTWOOD URBAN DISTRICT COUNCIL.

TENDERS are invited for the BURNING-OFF and PLANNING of existing CARRIAGEWAY SURFACINGS, and the SUPPLY, DELIVERY and LAYING by Barber-Greene machine, of HOT ROLLED ASPHALT: TARMACADAM and BITUMINOUS CONCRETE FOUNDATION COURSES: BITUMINOUS MACADAM WEARING COURSES and GRAVEL MACADAM WEARING COURSES.

Forms of Tender and Specification obtainable from the Engineer and Surveyor, Council Offices, Brentwood

Tenders, enclosed in the envelope provided, must reach me by 3rd MAY, 1960.

The Council reserves the right to divide the Contract.

CLEMENT BOOTH,
Clerk of the Council.

6th April, 1960.

FAREHAM URBAN DISTRICT COUNCIL.

SURFACE DRESSING.

TENDERS invited for SURFACE DRESSING of approx. 150,000 sq. yd. of Classified and Unclassified Roads, work to be completed by 31st August, 1960.

Tenders to be based on Conditions of Contract and Specification, which, together with Form of Tender, are obtainable from Engineer and Surveyor, Westbury Manor, Fareham, Hants.

Tenders, on form provided, and in sealed envelopes endorsed "Surface Dressing Roads," to me by 10 a.m., 22nd APRIL, 1960.

B. W. RANDS,
Clerk to the Council.

Merton,
5 Grove Road,
Fareham, Hants.

CONTRACTS

COUNTY COUNCIL OF DURHAM.

TENDERS invited for SUPPLY of the FOLLOWING:
(1) Science Apparatus and Chemicals to Schools.
(2) Woodturning Lathes and Motorised Grindstones to various Schools.

Forms of Tender, returnable by the 6th MAY, 1960, and details from the undersigned.

G. H. METCALFE,
Director of Education.

Shire Hall,
Durham.
4th April, 1960.

MUDI RIVER WATER BOARD. NYASALAND.

NOTICE TO CONTRACTORS.

TENDERS are invited from contractors experienced in pipelaying for the LAYING of PLAIN-ENDED and FLANGED STEEL PIPES and SPECIALS with COUPLINGS in the BLANTYRE DISTRICT of NYASALAND for Contract No. 6 of the WALKER'S FERRY SCHEME, which is to supply water from the Shire River to the Municipality of Blantyre/Limbe.

The contract includes:—

(i) The Reception, Off-loading, Haulage, Handling, Laying, Jointing, Testing and Sterilising of Plain-ended and Flanged Steel Pipes and Specials with Couplings for the following approx. lengths and site test pressures:—
21 miles of 24in. nom. dia., site test pressures 1,000 p.s.i. to 350 p.s.i.
6 miles of 21in. nom. dia., site test pressures 1,150 p.s.i. to 250 p.s.i.
1¾ miles of 18in. nom. dia., site test pressures 300 p.s.i. to 250 p.s.i.
1 mile of 16in. nom. dia., site test pressure 250 p.s.i.
Together with Valves and Fittings.
(ii) Preparation of Pipe Dumps, the Forming of a Temporary Access Road approx. 9.5 miles long, and the Construction of a Permanent Access Road approx. 1.5 miles long.
(iii) Construction of a Permanent Bridge over the Mirumbe Stream and Temporary Low-level Drifts over the Chileka and Nkokodzi Streams.
(iv) The Excavation and Back-filling of Trenches, Joint Holes, Valve Pits, etc., and the Reinstatement of all Surfaces.
(v) The Construction of Thrust Blocks, Valve Pits, and other Concrete Works.
(vi) The Construction of Pipe Crossings on the Blantyre/Balaka branch and the Limbe/Blantyre branch of the Nyasaland Railways.
(vii) Pipe Crossings of six principal Streams and other small Streams.

The contract also includes for the supply of steel and asbestos-cement pipes for washout pipelines and other ancillary equipment and the carrying out of other works as described in the documents.

Tender documents, including one set of Drawings, will be available from the Consulting Engineers, Messrs. SCOTT AND WILSON, KIRKPATRICK AND PARTNERS, P.O. Box 154, Blantyre, Nyasaland, during the first two weeks of May, 1960. Contractors wishing to receive documents should make application, enclosing a banker's draft deposit of Fifty Pounds (£50) sterling in favour of the Mudi River Water Board, together with a full statement reflecting their financial status, personnel and plant resources and giving full details of their experience of the type of work involved in this contract. The deposit will be refunded only to those tenderers who submit a bona-fide Tender and return all tender documents and Drawings.

One extra copy of the Bill of Quantities will be supplied, free of charge.

Contractors may inspect the site of the works on WEDNESDAY, the 25th May, 1960, in the presence of a representative of the Consulting Engineers, at whose Offices those interested should meet at 8 a.m. on that day.

Tenders, in sealed packages, shall be endorsed and addressed in the manner stated in the instructions contained in the documents, and shall be delivered at the stated address not later than 1430 hours G.M.T. on TUESDAY, the 21st June, 1960. Tenders will be opened in public in the Board Room of the Mudi River Water Board, at the Town Hall, Limbe, at the above time and date.

The Mudi River Water Board does not bind itself to accept the lowest or any Tender.

ALEXANDER MILLAR,
A.M.I.C.E., M.I.Mun.E., M.I.W.E.,
Engineer Manager.

Mudi River Water Board,
P.O. Box 369,
Limbe, Nyasaland.
22nd March, 1960.

MUDI RIVER WATER BOARD, NYASALAND.

NOTICE TO CONTRACTORS.

TENDERS are invited from manufacturers for the SUPPLY, DELIVERY and ERECTION of ELECTRICAL SWITCHGEAR, TRANSFORMERS and ancillary EQUIPMENT in the BLANTYRE DISTRICT of NYASALAND for Contract No. 4 of the WALKER'S FERRY SCHEME.

The contract incudes for the supply, delivery and erection of the following electrical equipment:—

(i) 11-kV Switchgear at Walker's Ferry and Chileka.
(ii) Two 1,250-kVA 11-kV/3.3-kV Transformers at Walker's Ferry.
(iii) Two 1,250-kVA 11-kV/3.3-kV Transformers at Chileka.
(iv) Two 100-kVA and Two 200-kVA 11-kV/400-Volt Transformers at Walker's Ferry.

The contract also includes for the supply, delivery and erection of interconnecting cabling low-tension switchboards and ancillary equipment described in the documents.

All concrete and building work will be carried out under a separate contract.

Tender documents, in triplicate, may be obtained from the Consulting Engineers, Messrs. SCOTT AND WILSON, KIRKPATRICK AND PARTNERS, P.O. Box 154, Blantyre, Nyasaland, or 47 Victoria Street, London, S.W.1, England, during the month of April, 1960, on payment of a deposit of Twenty Pounds (£20) sterling in the form of a banker's draft only, in favour of the Mudi River Water Board. This amount will be refunded on receipt of a bona-fide Tender or the return of all contract documents.

Tenders, in sealed packages, shall be endorsed and addressed in the manner stated in the instructions contained in the documents, and shall be delivered at the stated addresses not later than 1430 hours G.M.T. on TUESDAY, the 14th June, 1960.

The Mudi River Water Board does not bind itself to accept the lowest or any Tender.

ALEXANDER MILLAR,
A.M.I.C.E., M.I.Mun.E., M.I.W.E.,
Engineer Manager.

Mudi River Water Board,
P.O. Box 369,
Limbe, Nyasaland.
22nd March, 1960.

CONTRACTS

GOVERNMENT OF THE GAMBIA.

PUBLIC WORKS DEPARTMENT.

BARRA FERRY TERMINAL.

TENDERS are invited from experienced contractors for the CONSTRUCTION of a FERRY TERMINAL at Barra, on the North Bank of the Estuary of the Gambia River.

The works consist of a Piled Access Jetty approx. 1,000ft. long, in Reinforced Concrete; a Solid Berthing Head incorporating a Vehicle Landing Ramp, and Shore ancillaries.

Copies of the Tender documents and Drawings, to be issued as from 25th APRIL, 1960, may be obtained from the Consulting Engineers, MESSRS. G. MAUNSELL AND PARTNERS, 66 Haymarket, Westminster, London, S.W.1. Applications must be accompanied by a deposit of £10, which will be refunded on receipt of a bona-fide Tender and the return of all Tender documents and Drawings.

Tenders should be delivered simultaneously to the MAJOR TENDER BOARD, Bathurst, and a duplicate copy to the Consulting Engineers, MESSRS. G. MAUNSELL AND PARTNERS, 66 Haymarket, Westminster, London, S.W.1, not later than 6th JUNE, 1960.

The lowest or any Tender will not necessarily be accepted.

NORTH RIDING OF YORKSHIRE.

TENDERS are invited by NORTH RIDING COUNTY COUNCIL for the FOLLOWING ITEMS of UNIFORM for their Ambulance Service: Suits, Raincoats, Caps, Shirts, Ties, Gloves.

Tender Forms, from the County Ambulance Officer, to be returned to the CLERK OF THE COUNTY COUNCIL, County Hall, Northallerton, by 2nd MAY.

WILTSHIRE COUNTY COUNCIL.

TENDERS are invited for the FOLLOWING:—
(a) Installation of Heating and Cold Water Supply Systems.
(b) Installation of Electrical System.

At the NEW COLLEGE OF FURTHER EDUCATION at SALISBURY (floor area approx. 110,000 sq. ft.).

Applications to tender, with details of available labour force, organisation and particulars of any similar work carried out, to be made by APRIL 26th, 1960, to the County Architect.

The Council reserves to itself the right to select the firms who will be invited to tender.

Plans and Specifications will be sent to selected contractors.

P. A. SELBORNE STRINGER,
Clerk of the County Council.

County Hall,
Trowbridge.

WILTSHIRE COUNTY COUNCIL.

TENDERS are invited for the FOLLOWING:—
(a) Installation of Heating and Cold Water Supply Systems.
(b) Installation of Electrical System.

At LAVINGTON NEW SECONDARY MODERN SCHOOL (floor area approx. 23,500 sq. ft.).

Applications to tender, with details of available labour force, organisation and particulars of any similar work carried out, to be made by APRIL 26th, 1960, to the County Architect.

The Council reserves to itself the right to select the firms who will be invited to tender.

Plans and Specifications will be sent to selected contractors.

P. A. SELBORNE STRINGER.
Clerk of the County Council.

County Hall,
Trowbridge.

COUNTY BOROUGH OF READING.

COLEY PARK HOUSING ESTATE—
SITE NO. 37, EXTENSION AND COLEY AVENUE.

TENDERS are invited for the CONSTRUCTION of 4,000 sq. yd. (approx.) of FOOTWAYS and VERGES and incidental works on the ABOVE ESTATE.

General Conditions and Drawings may be inspected and Bill of Quantities, etc., obtained for fee of Two Guineas (cheques payable to Reading Corporation) at Borough Surveyor's Office (P.O. Box 17), Town Hall, Reading. Fee refunded for bona-fide Tender.

Tenders to be delivered to TOWN CLERK, Town Hall, Reading, by 12 Noon on 2nd MAY, 1960. No Tender considered unless enclosed in plain sealed envelope, endorsed "Coley Extension—Footways," but bearing no indication of sender. The Corporation do not bind themselves to accept any Tender.

COUNTY BOROUGH OF READING.

RICHFIELD AVENUE OUTLET FOUL SEWER.

TENDERS are invited for the CONSTRUCTION of 270 lin. yd. (approx.) FOUL SEWER, Richfield Avenue extension to Caversham Road.

General Conditions and Drawings may be inspected and Bill of Quantities, etc., obtained for fee of Two Guineas (cheques payable to Reading Corporation) at Borough Surveyor's Office (P.O. Box 17), Town Hall, Reading. Fee refunded for bona-fide Tender.

Tenders to be delivered to TOWN CLERK, Town Hall, Reading, by Noon on 26th APRIL, 1960. No Tender considered unless enclosed in plain sealed envelope, endorsed "Richfield Avenue Outlet Foul Sewer," but bearng no indication of sender. The Corporation do not bind themselves to accept any Tender.

CITY OF LIVERPOOL.

TENDERS invited for SUPPLY and ERECTION of 3-ton Single Girder Manual GANTRY CRANE and GANTRY, SOUTH SEWAGE DISPOSAL WORKS. Documents from City Engineer and Surveyor, Municipal Buildings, Liverpool, 2. Tenders returnable by 14th MAY, 1960.

THOMAS ALKER,
Town Clerk.

(J.6134B.)

CITY OF LIVERPOOL.

TENDERS invited for CONSTRUCTION and ERECTION of Triple Ram RECIPROCATING PUMP, SOUTH SEWAGE DISPOSAL WORKS, GATEACRE, Liverpool. Documents from City Engineer and Surveyor, Municipal Buildings, Liverpool, 2. Tenders returnable by 14th MAY, 1960.

THOMAS ALKER,
Town Clerk.

(J.6134A.)

CITY OF LIVERPOOL.

TENDERS invited for SUPPLY and DELIVERY of CRANKCASE OILS during 12 months ending 31st July, 1961. Documents from City Engineer and Surveyor, Municipal Buildings, Liverpool, 2. Tenders returnable by 14th MAY, 1960.

THOMAS ALKER,
Town Clerk.

(J.6135.)

CONTRACTS

COUNTY BOROUGH OF GRIMSBY.

CONSTRUCTION OF INDOOR SWIMMING POOL.

The ESTATES AND BATHS COMMITTEE of the Town Council will shortly be in a position to invite FIXED-PRICE TENDERS for the CONSTRUCTION of a COVERED SWIMMING POOL on a site in SCARTHO ROAD, Grimsby. The work includes Bulk Excavation, Reinforced Concrete Work, Structural Steelwork, General Building Works, together with ancillary Site Works.

The Consulting Engineers for the Mechanical and Electrical Installations and the Structural Engineering Design are MESSRS. OSCAR FABER AND PARTNERS, of London. The Contract includes for Sub-contracts to the general contractor for Structural Steelwork, Heating, Hot Water, Electrical and Filtration, etc., Plants.

Experienced contractors, competent to carry out works of this nature, are invited to submit their names to the undersigned not later than MONDAY, the 25th April, 1960.

Contractors eventually invited to tender will be required to have the necessary financial and material resources, together with the appropriate labour force, to carry out the works expeditiously within the Contract period to be specified.

The Council does not bind itself to accept the lowest or any Tender.

J. V. OLDFIELD, M.Inst.C.E., L.R.I.B.A.,
Borough Engineer, Surveyor
and Architect.

Municipal Offices,
Town Hall Square,
Grimsby.
April, 1960.

BOROUGH OF KIDDERMINSTER.

PRIVATE STREET WORKS ACT, 1892.

OAKFIELD ROAD (PART) AND BIRCHFIELD ROAD (PART).

TENDERS are invited for the MAKING-UP of the ABOVE ADJOINING STREETS, comprising of approx. 270 lin. yd. of 6in. and 9in. dia. Surface Water Sewer, 1,350 cu. yd. of Excavation to formation level; Provision and Laying 790 lin. yd. of Kerb and Channel Units; the Construction of 2,500 sq. yd. of 8in. Flexible Carriageway; 1,200 sq. yd. of Flexible Footway, and all ancillary works.

Specification, Bills of Quantities and Form of Tender may be obtained from J. G. STEWART, A.M.I.C.E., M.Inst.Mun.E., M.I.W.E., Borough Engineer and Surveyor, 110 Mill Street, Kidderminster, and Conditions of Contract and Drawings may be inspected at the above office on payment of a deposit of £2, which is returnable on receipt of a bona-fide Tender not subsequently withdrawn

Tenders are to be delivered in envelopes provided, endorsed "E149/6/5," to reach the undersigned not later than 12 Noon on FRIDAY, 6th May, 1960.

J. L. EVANS,
Town Clerk.

Town Hall,
Kidderminster.
5th April, 1960.

CHADDERTON URBAN DISTRICT COUNCIL.

FOOTWAY RECONSTRUCTION.

TENDERS are invited for the RECONSTRUCTION of approx. 700 lin. yd. of FLAGGED FOOTWAYS in MIDDLETON ROAD (A.669) and LANSDOWNE ROAD (B.6190).

Specifications and Bills of Quantities may be obtained from the Engineer and Surveyor, Town Hall, Chadderton, upon deposit of £2 2s., which will be returned on receipt of a bona-fide Tender.

Tenders, in plain sealed envelopes endorsed "Tender—Footway Reconstruction," must be delivered to the undersigned by 27th APRIL, 1960.

L. STOTT,
Clerk of the Council.

Town Hall,
Chadderton.
1st April, 1960.

WELTON RURAL DISTRICT COUNCIL.

TENDERS FOR HOUSING AT LANGWORTH (ON TWO SITES).

The above Council invites contractors who are desirous of submitting TENDERS for SIX DWELLINGS, comprising Two Houses and Two Bungalows (Chapel Site) and Two Bungalows (Barlings Lane), at Langworth, on two separate sites, and contractors may tender for one or both, to send in their names to the Architects, MESSRS. WM. SAUNDERS AND PARTNERS, 24 Castle Gate, Newark, Notts., or 57 Upgate, Louth, Lincs., from whom copies of the Specifications and Bills of Quantities and Conditions may be obtained on payment of £3 3s., which will be returned on receipt of a bona-fide Tender.

The Council does not bind itself to accept the lowest or any Tender received, and acceptance is subject to the approval of the Ministry of Housing and Local Government.

Sealed and endorsed Tenders, on forms supplied, must reach the undersigned not later than 12 Noon on THURSDAY, 5th May, 1960.

L. H. KING,
Clerk of the Council.

31 Clasketgate,
Lincoln.

CRICKLADE AND WOOTTON BASSETT RURAL DISTRICT COUNCIL.

ERECTION OF 10 HOUSES AND 28 BUNGALOWS (BRICK)—
CRICKLADE, PURTON AND BROAD TOWN.

FIXED-PRICE TENDERS are invited for the ABOVE, including Site and Substructures, Drains, Water Services, Fences, Carriageway and Footpath Works, in accordance with Drawings, Specification and Bills of Quantities, prepared by MR. J. C. GRINDLEY, A.M.I.C.E., Engineer and Surveyor, at the address below.

The Conditions of Contract may be seen at the Office of the Engineer and Surveyor, from whom the Drawings, Specifications, Bills of Quantities and Form of Tender may be obtained on payment of a deposit of £2 2s., which will be refunded on receipt of a bona-fide Tender and return of all documents.

Contractors must state for which sites they wish to tender, and separate documents will be furnished as required.

Tenders, in plain sealed envelopes, endorsed "38 Houses and Bungalows at Cricklade, Purton and Broad Town," should be delivered to the undersigned not later than 10 a.m. on TUESDAY, the 24th May, 1960.

The Council does not bind itself to accept the lowest or any Tender.

W. J. HOSIER,
Clerk of the Council.

Manor House,
Wootton Bassett,
Swindon, Wilts.
April, 1960.

CONTRACTS

BOROUGH OF HARTLEPOOL.

ERECTION OF COMMUNITY CENTRE.

TENDERS are invited for the ERECTION of a COMMUNITY CENTRE to be built in MIERS AVENUE, West View, Hartlepool.

The Building will contain a Main Hall, Stage, Dressing Rooms, Committee Rooms, Games Rooms, Cloakrooms, etc.

Plans may be inspected at, and Bills of Quantities and Forms of Tender may be obtained from, the Office of the Borough Engineer, Borough Buildings, Hartlepool, on payment of a deposit of £2, which will be refunded on receipt of a bona-fide Tender.

Tenders, in plain sealed envelopes endorsed "Tender—Community Centre," must be delivered to the undersigned not later than 12 Noon, SATURDAY, 7th May, 1960.

The Corporation does not bind itself to accept the lowest or any Tender.

L. O. WILLIAMS,
Town Clerk.

Borough Buildings,
Hartlepool.

BOROUGH OF TWICKENHAM.

TENDERS are invited for the SUPPLY and LAYING of approx. 18,000 sq. yd. of CARRIAGEWAY CARPETING.

The Corporation are prepared to receive Tenders for any class of material provided the contractor is prepared to maintain the same free of charge to the Corporation for a period of five years from the completion of the work.

Specification, Plan and Form of Tender may be obtained upon application at the Office of the Borough Engineer and the payment of a deposit of Two Guineas.

Tenders, in the envelope supplied, to be received by the undersigned before 10 a.m. on 2nd MAY, 1960.

The Corporation do not bind themselves to accept the lowest or any Tender.

W. H. JONES,
Town Clerk.

Municipal Offices,
Twickenham.
April, 1960.

BOROUGH OF DOVER.

SURFACE DRESSING OF HIGHWAYS, 1960/61.

FIXED-PRICE TENDERS are invited for the SURFACE DRESSING of approx. 34,500 sq. yd. of HIGHWAY, with Mechanical Plant.

Tender documents may be obtained from the Borough Engineer, Brook House, Dover, on payment of a deposit of £2 2s., refundable on receipt of a bona-fide Tender not subsequently withdrawn.

Tenders must be delivered to the undersigned, in the endorsed envelopes provided, not later than 10 a.m. on the 21st APRIL, 1960.

JAMES A. JOHNSON,
Town Clerk.

New Bridge House,
Dover.
5th April, 1960.

CITY OF SALFORD.

FREDERICK ROAD TRANSPORT DEPOT.

PROPOSED MODIFICATIONS.

FIRM-PRICE TENDERS are invited for the ALTERATIONS to the ABOVE TRANSPORT DEPOT at Frederick Road, Salford, 6.

The work comprises the Demolition of existing Maintenance Pits, Floor, main Dividing Wall carrying part of the Depot Roof, and the Construction of new Maintenance Pits, Floors, Screen Walls, small Office Buildings, involving, in the main, Brickwork, Concrete, Steelwork, together with Alterations to Ancillary Workshops throughout the Depot and the Office Block.

The work will be phased over a period of two years and must be executed with minimum interference to the daily working of the Transport Department.

Conditions of Contract and Drawings may be inspected at, and Bills of Quantities and Form of Firm-price Tender obtained from, the City Engineer and Surveyor's Department, Town Hall, Salford, 3, on payment of a deposit of £5 5s., which will be returned on submission of a bona-fide Firm-price Tender not subsequently withdrawn.

Firm-price Tenders, on the prescribed form, sealed in the envelope provided and bearing no other mark or identification, must be forwarded to the undersigned so as to be received not later than 10 a.m. on MONDAY, 23rd May, 1960.

The Council does not bind itself to accept the lowest or any Firm-price Tender.

R. RIBBLESDALE THORNTON,
Town Clerk.

BRIDGE-BLEAN RURAL DISTRICT COUNCIL.

CONTRACT NO 1—MODIFICATION OF HARBLEDOWN SEWAGE DISPOSAL WORKS.
CONTRACT NO. 2—CONSTRUCTION OF ROADS AND SEWERS—STURRY.

TENDERS are invited for the EXECUTION of the UNDERMENTIONED WORKS as separate Contracts:

(1) Modification of the Harbledown Sewage Disposal Works, including the Provision of a Recorder; the Alteration of Existing Concrete Tanks to Storm Water Tanks; and the Construction of Overflow Weirs, Sludge Drying Beds and a Reinforced Concrete Bridge over a stream for vehicular traffic.

(2) Construction of Roads and Surface Water Sewers at Sturry, comprising approx. 700 sq. yd. of Tarmacadam Carriageway and 100yd. of 6in. Surface Water Sewers, together with Incidental works.

Forms of Tender, together with one copy of the Drawings and Specification, and two copies of the Bills of Quantities for each Contract, may be obtained from the Engineer and Surveyor, at the undermentioned address, on deposit of a fee of £2 2s. (cheques, postal orders, etc., to be made payable to the Bridge-Blean Rural District Council). The deposits will be refunded only on receipt of bona-fide Tenders not subsequently withdrawn, and the return of the documents (Drawings, Specifications and one copy of the Bills of Quantities) lent for the purpose of tendering. The General Conditions of Contract may be inspected at the Office of the Engineer and Surveyor during normal business hours.

Tenders, in sealed envelopes endorsed "Contract 1—Modification — Harbledown Sewage Works," and "Contract 2—Sturry Redevelopment Roads and Sewers," accompanied by the Bills of Quantities, must reach the undersigned not later than 12 Noon on the 2nd MAY, 1960, for Contract No. 1, and the 9th MAY, 1960, for Contract No. 2.

The Council do not bind themselves to accept the lowest or any Tender.

I. F. SOILLEUX,
Clerk of the Council.

Council Offices,
41 Old Dover Road,
Canterbury, Kent.
6th April, 1960.

CONTRACTS

COUNTY BOROUGH OF BLACKPOOL.

TENDERS (by 2.30 p.m., THURSDAY, 28th, April, 1960) are invited for the MAKING-UP of FIVE PRIVATE STREETS (approx. length 290 lin. yd).

Particulars from Borough Surveyor, ARTHUR HAMILTON, B.Sc., P.O. Box 17, Municipal Offices, Blackpool, on payment of £2 deposit.

METROPOLITAN BOROUGH OF FULHAM.

PRINTING OF THE COUNCIL AGENDA AND MINUTES.

TENDERS are invited for the PRINTING of the Council's AGENDA and MINUTES for a period of three to seven years.

Full particulars and Forms of Tender may be obtained from me.

Closing date for submission of Tenders is 29th APRIL, 1960.

CYRIL F. THATCHER,
Town Clerk.

Town Hall,
Fulham, S.W.6.

BOROUGH OF BASINGSTOKE.

VICTORY SQUARE PUMPING STATION—CONTRACT NO. 1.

TENDERS are invited from experienced contractors for the CONSTRUCTION, TESTING and MAINTENANCE of a SEWAGE PUMPING STATION, approx. 1,950 lin. yd. of 24in. dia. Spun-iron Rising Main, approx. 350 lin. yd. of 12in. dia. Concrete Sewer complete with Manholes, and a Reinforced Concrete Bridge over the Railway, together with Temporary Outfall Arrangements at the Council's Sewage Farm.

A copy of the Contract documents may be obtained on and after MONDAY, 25th April, from the Council's Consulting Engineers, MESSRS. LEMON AND BLIZARD, 59 Tufton Street, Westminster, S.W.1, upon payment of a deposit cheque of Five Guineas made payable to the Council, which will be returned on receipt of a bona-fide Tender and the return of all documents. The Form of Tender and a priced Bill of Quantities must be delivered in a plain sealed envelope endorsed "Tender for Victory Square Pumping Station—Contract No. 1," to the undersigned before Noon on FRIDAY, 27th May, 1960.

The Plans and Drawings may be seen during normal working hours at the Offices of the Consulting Engineers or the Council.

The Council do not bind themselves to accept the lowest or any Tender.

L. WOMERSLEY,
Town Clerk.

Municipal Buildings,
Basingstoke, Hants.

CHIGWELL URBAN DISTRICT COUNCIL.

TOMSWOOD ROAD, CHIGWELL.

The Council invites TENDERS for IMPROVEMENT WORKS, comprising approx. 150 lin. yd. Carriageway Drainage, 1,000 lin. yd. Kerbing, 2,300 sq. yd. Footways, 470 sq. yd. Hardcore Carriageway, and incidentals.

Tender Forms, Bill of Quantities and Specification on deposit of £2 2s. (returnable after submission of bona-fide Tender not subsequently withdrawn and return of documents) from Engineer and Surveyor (address below where Drawings and Conditions of Contract may be inspected).

Contract will provide for Fair Wages Clause and Bond.

Tenders, in sealed envelope (provided), bearing no mark indicating sender, to be delivered to the CLERK OF THE COUNCIL, Council Offices, Old Station Road, Loughton, Essex, by 3rd MAY.

The Council does not bind itself to accept the lowest or any Tender.

CHADDERTON URBAN DISTRICT COUNCIL.

ASPHALT SURFACING.

TENDERS are invited for the RESURFACING of PARTS of BROADWAY (A.663) and MIDDLETON ROAD (A.669), with approx. 6,500 super. yd. of HOT ROLLED ASPHALT.

Specifications and Bills of Quantities may be obtained from the Engineer and Surveyor, Town Hall, Chadderton, upon deposit of £2 2s., which will be returned on receipt of a bona-fide Tender.

Tenders, in plain sealed envelopes endorsed "Tender for Asphalt Surfacing," must be delivered to the undersigned by 27th APRIL, 1960.

L. STOTT,
Clerk of the Council.

Town Hall,
Chadderton.
1st April, 1960.

MACHYNLLETH RURAL DISTRICT COUNCIL.

COMPREHENSIVE WATER SUPPLY SCHEME.

CONTRACT NO. 3.

TENDERS are invited from contractors experienced in this class of work, for the LAYING in Montgomeryshire, in and adjacent to PANDY, Wynnstay, Llanbrynmair and Bont, of approx. 94yd. of 6in., 4,989yd. of 5in., 4,641yd. of 4in., 8,740yd. of 3in., 1,240yd. of 2in. and 110yd. of 1½in. ASBESTOS-CEMENT PIPES, the CONSTRUCTION of one 250,000-gallon REINFORCED CONCRETE-COVERED STORAGE RESERVOIR, Filter House and Settlement Tanks, STREAM INTAKE WORKS on the Avon Cwm, Nant-yr-ysgoldy, Clerdynant and Nant Rhyd-y-car, together with Break Pressure Tanks, Pressure Reducing Valves, with all necessary appurtenant works, including House Connections.

Tenders must be submitted on a Fixed-price Basis, i.e., no provision will be made in the Contract for any increase or decrease of costs of materials or labour between the date of the Tender and the completion of the Contract.

Conditions of Tender, Conditions of Contract, Specification and Bill of Quantities can be obtained from the Office of the Consulting Engineers to the Council, MESSRS. WALLACE EVANS AND PARTNERS, 30 Stanwell Road, Penarth, Glamorgan, on payment of a deposit of £10 (Ten Pounds), which will be refunded on receipt of a bona-fide Tender (which is not afterwards withdrawn), together with all documents furnished for tendering. Plans can be seen at the Offices of the Engineers, 30 Stanwell Road, Penarth, Glamorgan, and Church Bank House, Welshpool, Mont., or at the Offices of the Surveyor of the Council, 11 Penralit Street, Machynlleth, Mont.

Tenders, sealed and endorsed "Comprehensive Water Supply Scheme—Contract No. 3," should reach the undersigned not later than Noon on the 11th MAY, 1960.

Dated this 6th day of April, 1960.

(Signed) HENRY EVANS,
Clerk of the Council.

Rural District Council Offices,
Machynlleth, Mont.

CONTRACTS

LANCASHIRE COUNTY COUNCIL.

TENDERS are invited for the FOLLOWING CONTRACT:

Bridgeworks in the Reconstruction and Widening of Bulk Canal Bridge, Lancaster, carrying the Lancaster Canal over the Lancaster-Kirkby Lonsdale Road, A.683.

The Bridgeworks comprise the Demolition of the existing Masonry Arched Bridge of 21ft. span and its Replacement by a new Bridge of 64ft. span, having Mass Concrete Abutments and Wing Walls with Precast Concrete Block Facing supporting a Prestressed Concrete Trough Deck carrying the Canal over the Road.

Plans and Contract documents obtainable from COUNTY SURVEYOR, P.O. Box 9, County Hall, Preston, on deposit of £10, which will be refunded only on receipt of a Tender and the return of all documents and Drawings supplied.

Cheques to be made payable to Lancashire County Council. Contractors to quote Ref. 141/51.

Tenders to be received not later than 10 a.m. on MONDAY, 23rd May, 1960.

ROYAL BOROUGH OF KINGSTON-UPON-THAMES.

KINGSTON GRAMMAR SCHOOL PLAYING FIELDS, PALACE ESTATE, THAMES DITTON.

TENDERS are invited for the SUPPLY and ERECTION of 960 lin. yd. of 8ft. PLASTIC COATED CHAIN-LINK FENCING and GATES.

Contract documents from the Borough Surveyor, Guildhall, Kingston-upon-Thames, on deposit of £2 2s., returnable on receipt of a bona-fide Tender not subsequently withdrawn.

Closing date: TUESDAY, 26th April, 1960.

A. B. ROGERS,
Town Clerk.

5th April, 1960.

BOROUGH OF FARNWORTH.

LAVENDER ROAD WIDENING.

TENDERS are invited for the ABOVE SCHEME, which comprises Kerbing and the Laying of approx. 3,000 super. yd. Hot Rolled Asphalt to Carriageway Surface and approx. 2,000 super. yd. Bituminous Macadam to Footways.

Plans may be inspected, and Specification, Bills of Quantities and Forms of Tender obtained, upon application to the Borough Engineer, Town Hall, Farnworth, Lancs.

Sealed Tenders, in plain envelopes and endorsed "Tender for Lavender Road Widening," to be delivered to the undersigned not later than 10 a.m. on SATURDAY, 30th April, 1960.

The lowest or any Tender will not necessarily be accepted.

THOMAS HITCHEN,
Town Clerk.

Town Hall,
Farnworth.

URBAN DISTRICT COUNCIL OF RAYLEIGH.

TENDERS are invited for the FOLLOWING:

(1) A Stothert and Pitt Vibrating Self-propelled Hand-guided Roller;
(2) A Bedford 3-ton Normal Control Diesel Truck equipped with Hydraulic Tipping Gear and Body;

all as specified in the appropriate Schedule which may be obtained, together with General Conditions of Contract and Form of Tender, from the Office of the Engineer and Surveyor, Council Offices, Rayleigh, Essex.

Completed Tenders, in the envelope provided, to be returned to the undersigned not later than Noon on FRIDAY, 29th April, 1960.

C. E. FITZGERALD,
Clerk of the Council.

Council Offices,
Horkley Road,
Rayleigh, Essex.
7th April, 1960.

CHADDERTON URBAN DISTRICT COUNCIL.

HEATING AND PLANING CARRIAGEWAYS.

TENDERS are invited for the HEATING and PLANING of approx. 18,000 super. yd. of CARRIAGEWAY on Three Roads within the District.

Specifications and Forms of Tender may be obtained from the Engineer and Surveyor, Town Hall, Chadderton, upon deposit of £1 1s., which will be returned on receipt of a bona-fide Tender.

Tenders, in plain sealed envelopes endorsed "Tender—Heating and Planing," must be delivered to the undersigned by 27th APRIL, 1960.

L. STOTT,
Clerk of the Council.

Town Hall,
Chadderton.
1st April, 1960.

RURAL DISTRICT COUNCIL OF ALNWICK.

TOGSTON SEWERAGE AND SEWAGE DISPOSAL.

TO SEWAGE CONTRACTORS.

The above Council invite TENDERS, on a Fixed-price Basis, for the FURNISHING and LAYING of about 1,100 lin. yd. of 18in., 12in. 9in. and 6in. dia. CONCRETE and EARTHENWARE PIPE SEWERS, complete with Manholes, etc., and about 60 lin. yd. of 4in. dia. CAST-IRON PIPE PUMPING MAIN; also the CONSTRUCTION of a SEWAGE PUMPING STATION and SEWAGE DISPOSAL WORKS comprising Sedimentation Tanks, Percolating Filters, Humus Tanks, Sludge Consolidation Tank, Sludge Drying Beds, and other appurtenant works.

Contractors desirous of tendering are requested to send their names and addresses to MESSRS. D. RALFOUR AND SONS, Consulting Engineers, Caledonian Buildings, 145 Pilgrim Street, Newcastle upon Tyne, 1, Engineers for the work, accompanied by a cheque for £5, made payable to the above Council, not later than 27th APRIL, 1960, after which full particulars will be forwarded.

The deposit will be returned on receipt of a bona-fide Tender and on return of all particulars after the Contract is let.

It is essential that the contractor should have had considerable experience in similar works and be prepared to furnish good and approved security for the fulfilment of the Contract.

Sealed Tenders, endorsed "Tender for Sewerage and Sewage Disposal Works," must reach the undersigned by a date to be given by the Engineers.

The Council do not bind themselves to accept the lowest or any Tender.

By Order,
RICHARD ROTHWELL,
Clerk of the Council.

Old Court Buildings,
34 Green Batt,
Alnwick, Northumb.
4th April, 1960.

CONTRACTS

WILTSHIRE COUNTY COUNCIL.

TENDERS invited for the RECONSTRUCTION of BAY BRIDGE, No. C5/166, situate on ROAD A.345, Marlborough-Swindon, at the Marlborough Borough boundary.

The works include Construction of Reinforced Concrete and Prestressed Concrete Bridge of 15ft. clear span, and associated roadworks, length approx. 500yd.

Relevant documents obtainable from County Surveyor, County Hall, Trowbridge, on payment of £2 deposit, returnable on receipt of a bona-fide Tender. Drawings may be inspected, by appointment, at the above address.

Tenders, in envelopes provided, bearing no name or mark indicating origin, returnable by 5 p.m. on 31st MAY, 1960.

P. A. SELBORNE STRINGER,
Clerk of the County Council.

BOROUGH OF WEYMOUTH AND MELCOMBE REGIS.

The CORPORATION propose to invite FIRM-PRICE TENDERS for the ERECTION of PUBLIC CONVENIENCES at LODMOOR CAR PARK and are preparing a list of selected contractors.

The Form of Contract will be the R.I.B.A. Standard Form of Contract with Quantities but with Clause 25a (Fluctuations) deleted.

Contractors desirous of being included in this list are invited to apply to the undersigned not later than 12 Noon, FRIDAY, 22nd April, 1960.

E. J. JONES,
Town Clerk.

Town Clerk's Office,
Weymouth.
April, 1960.

BOROUGH OF LUTON.

TENDERS invited for the RESURFACING of 10,000 sq. yd. approx of MAJOR ROADS with 1½in. of HOT ROLLED ASPHALT, together with Preparation of Surface and Regrading.

Documents from Borough Engineer, Town Hall, Luton, on payment of £2 2s. deposit, returnable after receipt of bona-fide Tender not subsequently withdrawn. Cheques payable Luton Corporation.

Tenders to TOWN CLERK, Town Hall, Luton, by Noon, MONDAY, 2nd May, 1960.

BOROUGH OF SWINTON AND PENDLEBURY.

STREET LIGHTING—EAST LANCASHIRE ROAD.

TENDERS are invited for the FOLLOWING WORKS, which may be treated as separate Contracts:

(1) Provision of 93 SSft. Steel Lighting Columns and Bracket Arms, together with 140-W Sodium Lanterns and Control Gear.
(2) Dismantling of 32 existing Mercury Vapour Standards and the Erection of 93 Steel Columns, together with the Installation of the Gear and Wiring of the Columns and Lanterns. Underground cabling and services will be carried out by N.W.E.B.

Tender documents, to be returned by 2nd MAY, 1960, are obtainable from BOROUGH ENGINEER, Town Hall, Swinton, Lancs.

CITY OF WORCESTER.

NEWTOWN AND REDHILL RELIEF SEWERS.

TENDERS are invited for the EXCAVATION and LAYING of approx. 3,400 lin. yd. of CONCRETE SURFACE WATER SEWERS varying in diameter from 12in. to 45in., the CONSTRUCTION of approx. 156 lin. yd of REINFORCED CONCRETE CULVERT and 40 Brick Manholes, together with appurtenant works, in connection with the above.

Documents are obtainable from the City Engineer, 22 Bridge Street, Worcester, upon deposit of Five Guineas, returnable on receipt of a bona-fide Tender not subsequently withdrawn.

Closing date: THURSDAY, 5th May, 1960.

BERTRAM WERSTER,
Town Clerk.

Guildhall,
Worcester.

CITY OF OXFORD.

BLACKBIRD LEYS HOUSING ESTATE—PART IV.

ROADS AND SEWERS.

TENDERS are invited for the CONSTRUCTION of ROADS, SEWERS, FOOTPATHS and VERGES on Part IV of the ABOVE ESTATE.

The work involves the Construction of approx. 5,100 lin. yd. of new Roads with Lean Mix Concrete Base and Asphalt Wearing Course to Carriageways; 5,700 lin. yd. of Foul and Surface Water Sewers varying from 4in. to 18in. dia., with necessary Manholes; 270 lin. yd. of 36in. dia. Surface Water Culvert; Site Clearance, and ancillary works.

Forms of Tender and appropriate documents will be available by approx. 20th APRIL, 1960, and interested contractors should forward their names by this date to the City Engineer, Town Hall, Oxford.

HARRY PLOWMAN,
Town Clerk.

The Town Hall,
Oxford.

GREAT OUSE RIVER BOARD.

TENDERS FOR RECONSTRUCTION OF BRIDGES, 1960.

TENDERS are invited for the RECONSTRUCTION of the FOLLOWING BRIDGES during the financial year 1960/61:

(1) Stony Stratford Footbridge—near Stony Stratford, Buckinghamshire.
(2) Little Woolstone Mill Bridle Path Bridge—near Newport Pagnell, Buckinghamshire.
(3) Stanford Farm Accommodation Bridge—near Shefford, Bedfordshire.

In each case the work consists of the Replacement of the existing bridge with a new bridge, involving the Driving of Precast Concrete Bearing Piles and the Construction of the Bridge Deck of Precast Concrete Beams. Incidental Channel Improvement Works, totalling 8,000 cu. yd. excavation, are also included.

Copies of the Contract documents and Drawings may be obtained from the Engineer of the Board, at the address given below, on payment of a deposit of Five Guineas (cheques to be made payable to the Great Ouse River Board), which will be refunded on the receipt of a bona-fide Tender, not subsequently withdrawn, and on the return of all documents and Drawings.

Tenders, enclosed in the endorsed addressed envelopes provided, must be received by me not later than 9 a.m. on MONDAY, 2nd May, 1960.

K. M. RODDIS,
Clerk of the Board.

Elmhurst,
Brooklands Avenue,
Cambridge.
7th April, 1960.

CONTRACTS

DERBYSHIRE COUNTY COUNCIL.

BRIDGES AND HIGHWAYS DEPARTMENT.

RECONSTRUCTION OF ROWLEY LANE, LITTLEOVER.

TENDERS are invited for LEVELLING, PAVING, KERBING, DRAINING and SURFACING the ABOVE STREET. The works include 260yd. 6in. Surface Water Drainage; 390yd. Kerbing; 1,880 super. yd. Carriageway and Footpath Surfacing in Coated Macadam.

Plans and Conditions of Contract may be seen, and Bills of Quantities, Form of Tender and Specification obtained from the County Surveyor, County Offices, Matlock, Derbyshire, on payment of a deposit of £2, cheques payable to Derbyshire County Council. Deposit will be refunded to bona-fide tenderers on signing Contract or notification of non-acceptance.

Tenders, in plain sealed envelopes endorsed "Rowley Lane, B. and H.," to be delivered to the undersigned by 10th MAY, 1960.

The County Council does not bind itself to accept the lowest or any Tender.

D. G. GILMAN,
Clerk of the County Council.

County Offices,
Matlock.

ABERTILLERY URBAN DISTRICT COUNCIL.

SIX BELLS RECREATION GROUND—TENNIS COURTS.

TENDERS are invited from experienced hard lawn tennis court makers for the RELAYING of Two COURTS at the ABOVE GROUND.

Further details can be obtained from, and arrangements made to inspect the site by appointment with, the Council's Engineer and Surveyor, Mr. REGINALD H. EKE, Council Offices, Abertillery, Mon (Tel. 411).

Tenders, in plain sealed envelopes, endorsed "Tender for Tennis Courts," are to be delivered to the undersigned not later than Noon on MONDAY, 25th April, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

T. L. ROBBINS,
Acting Clerk of the Council.

Council Offices,
Abertillery, Mon.
5th April, 1960.

ABERTILLERY URBAN DISTRICT COUNCIL.

PLAYGROUND EQUIPMENT.

TENDERS are invited for the SUPPLY and DELIVERY of the FOLLOWING PLAYGROUND EQUIPMENT, viz.:

Three Sets of Equipment, each set comprising:
18ft. 6in. All-metal Slide.
10ft. high 2-bay 6-seater Swing.
8ft. high 2-bay 6-seater Swing, fitted with three cradle seats.
8ft. dia. Merry-go-round, six sections.

Tenders, in plain sealed envelopes, endorsed "Playground Equipment," giving detailed specifications and guaranteed date of delivery after receipt of order, to be received by the undersigned not later than Noon of MONDAY, the 25th April, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

T. L. ROBBINS,
Acting Clerk of the Council.

Council Offices,
Abertillery, Mon.
5th April, 1960.

ABERTILLERY URBAN DISTRICT COUNCIL.

METROPOLE THEATRE—STAGE LIGHTING EQUIPMENT AND CURTAINING.

TENDERS are invited for the SUPPLY and ERECTION of (a) STAGE LIGHTING EQUIPMENT and (b) STAGE CURTAINING at the ABOVE THEATRE.

Tenders may be submitted for either or both of the above, and Specifications of the Council's requirements can be obtained from, and arrangements made to inspect the theatre by appointment with, the Council's Engineer and Surveyor, Mr. REGINALD H. EKE, Council Offices, Abertillery, Mon. (Tel. 411).

Tenders, in plain sealed envelopes, endorsed "Tender for Stage Curtaining," as the case may be, are to be delivered to the undersigned not later than Noon of MONDAY, the 25th April, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

T. L. ROBBINS,
Acting Clerk of the Council.

Council Offices,
Abertillery, Mon.
5th April, 1960.

HORSHAM URBAN DISTRICT COUNCIL.

EXTERNAL DECORATION—CAPITOL THEATRE.

TENDERS will shortly be invited for DECORATING EXTERNALLY the Council's Capitol Theatre.

Contractors who wish to be included in the list of tenderers must notify the Surveyor to the Council before 25th APRIL, 1960.

Applicants should be experienced in decorating theatres and similar public buildings, and must be able to undertake the work during the month of August, 1960. Details of similar contracts recently undertaken should be submitted with the application.

The Council do not bind themselves to include all applicants on their selected list.

S. ASHTON STRAY,
Clerk of the Council.

Council Offices,
Horsham Park,
Horsham, Sussex.

LYMM URBAN DISTRICT COUNCIL.

SEWERAGE CONTRACT NO. 1.

TENDERS are invited, on a Fixed-price Basis, from experienced contractors for the CONSTRUCTION of approx. 2,250 lin. yd. of 9in., 12in., 15in. and 18in. dia. CONCRETE PIPE SEWERS, together with Manholes and appurtenant works.

Drawings, Specification and Bills of Quantities may be seen at the Offices of the Council's Consulting Engineers, MESSRS. CHARLES J. LOMAX AND SON, 68 Barton Arcade, Manchester, 3, from whom copies of the Tender documents may be obtained on deposit of £5 5s. by cheque (made payable to Lymm U.D.C.), which will be refunded on receipt of a bona-fide Tender not subsequently withdrawn.

Tenders, endorsed "Sewerage Contract No. 1," should be delivered in a plain sealed envelope to the undersigned not later than Noon on MONDAY, 9th May, 1960.

The Council does not bind itself to accept the lowest or any Tender.

G. BURNIP,
Clerk of the Council.

Council Offices,
Lymm, Ches.
7th April, 1960.

CONTRACTS

HUNTINGDONSHIRE COUNTY COUNCIL.

COUNTY SURVEYOR'S DEPARTMENT.

GREAT NORTH ROAD RECONSTRUCTION SCHEME—SECTION 3C.

TENDERS are invited for the CONSTRUCTION of 24ft. DUAL CARRIAGEWAYS, together with all ancillary works, on a Two-mile length of the LONDON-EDINBURGH-THURSO TRUNK ROAD, A.1, between Brampton Hut and Alconbury.

The Scheme provides for the Improvement of about One Mile of existing Carriageway and for new Construction over the remaining length with a Lean Concrete Base and Hot Rolled Asphalt. There are two Bridges, of 9ft. span and 14ft. span, with Reinforced Concrete Decks and Mass Concrete Abutments.

Tenderers may be required to furnish evidence of their experience and ability in the execution of road and bridge works of this nature.

The works are subject to the Institution of Civil Engineers' General Conditions of Contract as amended, and the Ministry of Transport's Standard Specification for Road and Bridge Works, 1957 Edition.

The Council does not bind itself to accept the lowest or any Tender, and any acceptance will be subject to the approval of the Ministry of Transport.

Copies of the Tender documents and Plans may be obtained from the County Surveyor's Office, Walden House, Huntingdon, on payment of a deposit of £15, which will be returned on receipt of a bona-fide Tender or the return of the documents. Complete detailed Drawings may be inspected at the County Surveyor's Office during normal working hours.

Sealed Tenders, enclosed in the official envelope provided (which must not bear any name or mark indicating the sender), are to be delivered to the undersigned not later than Noon on MONDAY, 23rd May, 1960.

A. C. AYLWARD,
Clerk of the County Council.

County Buildings,
Huntingdon.

WEST SUSSEX COUNTY COUNCIL.

Contractors wishing to submit a FIXED-PRICE TENDER for either of the undermentioned schemes are invited to apply for permission to tender; such applications, stating for which scheme(s) they wish to tender, to be addressed to the County Architect, County Hall, Chichester, to reach him not later than 27th APRIL, 1960:

(1) Fire Station and Divisional Headquarters at Worthing. (Job No. 6126.)
(2) Stage 1 of new School at Yapton, near Arundel. (Job No. 6200.)

Quantities for (1) will be issued on or about 24th May, 1960, and for (2) on or about 7th July, 1960.

The County Council does not bind itself to accept the lowest or any Tender, and the firm whose Tender is accepted must be prepared to enter into a contract in a form to be prepared by me.

T. C. HAYWARD,
Clerk of the County Council.

County Hall,
Chichester.

COUNTY BOROUGH OF IPSWICH.

TENDERS are invited for the SUPPLY to various Corporation Establishments of the FOLLOWING for a period of 12 months commencing 1st July, 1960:

Uniforms; Clothing; Drapery; Boots and Shoes; Earthenware; Cleaning Materials; and Ironmongery.

Tender forms and further particulars may be obtained from the Town Clerk's Office, Town Hall, Ipswich.

Tenders, in plain sealed envelopes bearing the words "Tender for ——" (followed by the subject to which the Tender relates), but with no name or mark to indicate the sender, must be received by me not later than the 2nd MAY, 1960.

The Council does not bind itself to accept the lowest or any Tender.

J. C. NELSON,
Town Clerk.

Town Hall,
Ipswich.

COUNTY BOROUGH OF SOUTHAMPTON.

TENDERS invited for ERECTION of CENTRAL HEALTH CLINIC at EAST PARK TERRACE, Southampton (Phase 1—Three-storey Block).

Forms and Particulars, including Bill of Quantities, from Borough Architect on written application by 23rd APRIL, 1960.

R.I.B.A. Contract plus Supplementary Conditions available for inspection.

Tender to TOWN CLERK, Civic Centre, Southampton, by 10 a.m., 30th MAY, 1960.

BOROUGH OF LOWESTOFT.

HIGHWAYS ACT, 1959.

MAKING-UP AND SEWERING OF SHIP ROAD (PART) FROM STRADBROKE ROAD TO JUNCTION WITH NEW ESTATE ROAD AND FROM NOS. 10 AND 32 TO NOS. 20 AND 22 SHIP ROAD.

TENDERS are invited for the ABOVE WORK, comprising the FOLLOWING:

Making-up of approx. 1,000 super. yd. of Hard-core and Gravel Asphalt Carriageway, together with Concrete Flag Paving, Kerb, and Concrete Channel, and other ancillary works.

Drawings and Conditions of Contract will be available for inspection at the Borough Engineer's Office, 49 High Street, Lowestoft, and Form of Tender, Specification and Bills of Quantities can be obtained from the Borough Engineer upon payment of a deposit of Two Guineas, which will be refunded upon the receipt of a bona-fide Tender, not subsequently withdrawn, and the return of all documents.

Tenders must be delivered to the undersigned not later than 12 Noon on WEDNESDAY, 11th May, 1960. No Tender will be accepted unless in a sealed envelope endorsed "Tender—Making-up Ship Road, Lowestoft," and bearing no mark or writing by which the tenderer can be identified.

The Council do not bind themselves to accept the lowest or any Tender.

F. B. NUNNEY,
Town Clerk.

Town Hall,
Lowestoft.
7th April, 1960.

CITY OF LIVERPOOL.

TENDERS invited for SUPPLY and SPRAYING of HOT TAR or CUT-BACK BITUMEN to HIGHWAY SURFACES in Liverpool during 1960 season.

Documents from City Engineer and Surveyor, Municipal Buildings, Liverpool, 2.

Tenders returnable by 14th MAY, 1960.

THOMAS ALKER,
Town Clerk.

(1.6138.)

CONTRACTS

BOROUGH OF PORT TALBOT.

STREET LIGHTING SCHEME.

CONVERSION FROM GAS TO ELECTRICITY.

CWMAVON ROAD B4286/VELINDRE AND SPRINGFIELD AREAS, ABERAVON.

TENDERS are invited for EXECUTING WORKS in the VARIOUS STREETS LOCATED ABOVE.

Plans may be inspected, Specifications, General Conditions of Contract, Bill of Quantities and Form of Tender are obtainable at the Borough Engineer's Department, Municipal Buildings, Port Talbot.

Tenders, endorsed "Street Lighting Conversion Scheme, Aberavon," and addressed to the undersigned, to be received not later than Noon on 26th APRIL, 1960.

The lowest or any Tender will not necessarily be accepted.

W. KING DAVIES,
Town Clerk.

Municipal Buildings,
Port Talbot.
April 8th, 1960.

BOROUGH OF HARROGATE.

CONSTRUCTION OF TWO TENNIS COURTS—HARLOW HILL, HARROGATE.

The CORPORATION invites TENDERS for the ABOVE-MENTIONED WORKS in COATED MACADAM CONSTRUCTION.

Plans and Conditions of Contract may be inspected at the Office of the Borough Engineer, Municipal Offices, Harrogate, from whom the Specification, Bills of Quantities and Form of Tender may be obtained.

Sealed and endorsed Tenders, on the official form, together with the priced Bills of Quantities, are to be delivered, in the envelope provided, to the Borough Engineer not later than 10 a.m. on MONDAY, 2nd May, 1960.

The lowest or any Tender will not necessarily be accepted.

C. E. FELLOWS,
Borough Engineer.

Municipal Offices,
Harrogate.
7th April, 1960.

BOROUGH OF HARROGATE.

TO CONTRACTORS.

ROYAL HALL CAR PARK.

TENDERS are invited for the RESURFACING, in TARMACADAM and FINE COLD ASPHALT, and the DRAINAGE and SITE PREPARATION WORK on the ABOVE CAR PARK (approx. area 2,000 sq. yd.).

Plans and Conditions of Contract may be inspected at the Office of the Borough Engineer, from whom the Specification, Bill of Quantities and Form of Tender may be obtained.

Sealed and endorsed Tenders, on the official form, together with the priced Bill of Quantities, are to be delivered, in the envelope provided, to the Borough Engineer not later than 10 a.m. on THURSDAY, 28th April, 1960.

The lowest or any Tender will not necessarily be accepted.

C. E. FELLOWS,
Borough Engineer.

Municipal Offices,
Harrogate.
7th April, 1960.

BOROUGH OF HARROW.

PUBLIC LIGHTING.

TENDERS are invited for the SUPPLY and INSTALLATION of LANTERNS, LAMPS and Control Gear, comprising 1,150 60-W Sodium Units and 50 2/40-W Fluorescent Units, in connection with the Improved Lighting of certain roads in the Borough.

Conditions of Contract may be inspected at the Office of the Borough Engineer, 48 Uxbridge Road, Stanmore, Middlesex, from whom copies of the Form of Tender, Specification and Bill of Quantities are obtainable on payment of Two Pounds, by crossed cheque made payable to the Harrow Corporation, and returnable where a bona-fide Tender reaches me in time.

Tenders, on prescribed forms, enclosed in a plain envelope bearing no indication of the sender, and endorsed "Tender for Lighting Equipment," must reach my Office not later than 10 a.m. on MONDAY, 2nd May, 1960.

The Council does not bind itself to accept the lowest or any Tender.

D. H. PRITCHARD,
Town Clerk.

Harrow Weald Lodge,
Harrow,
Middlesex.

BOROUGH OF TOTTENHAM.

127 PARK LANE.

18 FLATS IN FOUR-STOREY BLOCKS.

Builders wishing to TENDER are requested to notify the Borough Engineer, Town Hall, Tottenham, N.15, not later than 3rd MAY, 1960, quoting "C.", together with £2 2s. deposit, refundable upon the submission of a bona-fide Tender. Plans may be seen at the Town Hall, N.15.

As soon as possible after the receipt of the deposit, copies of the Bills of Quantities, Form of Tender, and all necessary documents will be forwarded to the applicants, stating the closing date for the receipt of Tenders.

The Council do not bind themselves to accept the lowest or any Tender.

M. LINDSAY TAYLOR,
Town Clerk.

Town Hall,
Tottenham, N.15.

WHITSTABLE URBAN DISTRICT COUNCIL.

SWALECLIFFE COURT FARM ESTATE ROADS AND SEWERS, 1960-61.

TENDERS are invited for the CONSTRUCTION of ROADS and SEWERS, with ancillary works, at the ABOVE HOUSING SITE.

Specifications, Conditions, Forms of Tender and Bills of Quantities may be obtained, and the Drawings inspected, at the Office of the Engineer and Surveyor, The Castle, Whitstable, during normal office hours.

The Tenders are to be returned to the undersigned, in a plain sealed envelope endorsed as instructed on the Contract documents, and must be delivered by not later than Noon on MONDAY, 2nd May, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

F. TOMLINSON,
Clerk of the Council.

The Castle,
Whitstable.
8th April, 1960.

CONTRACTS

COUNTY OF CORNWALL.

NOTICE is hereby given of the intention to LET SEPARATELY the SUB-CONTRACTS for (a) METAL WINDOWS, and (b) ROLLER LEAF SLIDING SHUTTER DOORS in connection with the PROPOSED ERECTION of a new FIRE STATION at Camborne.

Applications are invited for permission to submit Fixed-price TENDERS for these Sub-contracts, and should be made to the County Architect, County Hall, Truro, not later than TUESDAY, 26th April, 1960, from which a selected number of firms will be invited to tender.

The closing date for receipt of Tenders will be notified when the documents are dispatched.

The lowest or any Tender will not necessarily be accepted, nor will the County Council pay to contractors any fees or expenses incurred in the preparation of a Tender.

E. T. VERGER,
Clerk of the County Council.

County Hall,
Truro.
7th April, 1960.

BOROUGH OF CHELMSFORD.

SUPPLY OF DUMPER, BITUMEN SPRAYER AND VIBRATORY ROLLER.

TENDERS are invited for the SUPPLY of a DIESEL ENGINE DUMPER, a BITUMEN SPRAYER and a PETROL ENGINE VIBRATORY ROLLER.

Form of Tender and Specification may be obtained from the Borough Engineer and Surveyor, Municipal Offices, Chelmsford.

Tenders, in plain sealed envelopes endorsed "Dumper, Bitumen Sprayer, Vibratory Roller," are to be delivered to the undersigned not later than Noon on MONDAY, 25th April, 1960.

B. A. FRANCIS,
Town Clerk.

Municipal Offices,
Chelmsford.

BOROUGH OF GILLINGHAM.

COMBINED AND FOUL SEWER—STATION ROAD TO TREMLOW ESTATE, RAINHAM.

PROPOSAL NO. 8 (PART).

TENDERS are invited for the CONSTRUCTION of FOUL and COMBINED SEWERS at RAINHAM. The work comprises Excavating for, Providing and Laying approx.—

640 lin. yd. 24in. S. and S. Concrete Pipes.
380 lin. yd. 27in. S. and S. Concrete Pipes.
350 lin. yd. 42in. S. and S. Concrete Pipes.
80 lin. yd. 54in. S. and S. Concrete Pipes.
Also Precast Concrete and Brick Manholes and other ancillary works.

Alternative Tenders are being invited for:—
(1) Unreinforced and reinforced concrete pipes.
(2) Specially strengthened pipes.

The documents and Drawings are being prepared, and application for copies of the Specification, Bills of Qantities and further instructions, etc., should be addressed ot the Borough Engineer, Municipal Buildings, Gillingham, Kent, accompanied by a deposit cheque for £2 2s., returnable on the receipt of a bona-fide Tender, not subsequently withdrawn.

The completed Tender must be delivered to the undersigned by First Post, FRIDAY, 29th April, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

FRANK HILL,
Town Clerk.

Municipal Buildings,
Gillingham, Kent.

BOROUGH OF ERITH.

TENDERS are invited for the SUPPLY and DELIVERY of SOME or ALL of the FOLLOWING PLANT—

4in. Mobile Pump.
Mobile 2-breaker Compressor.
Hydraulic Loader. The Council has to offer a 1952 Muir-Hill Loader in part exchange.

Forms of Tender and Specifications may be obtained from the Borough Engineer and Surveyor.

Tenders, in the envelope provided, must be received by the undersigned not later than Noon on MONDAY, 2nd May, 1960.

J. A. CROMPTON,
Town Clerk.

Town Hall,
Erith, Kent.

CITY OF MANCHESTER.

DAVYHULME SEWAGE WORKS EXTENSION.

FINAL SETTLEMENT TANKS.

TENDERS invited for the SUPPLY and ERECTION of Eight 113ft. dia. CIRCULAR TANK SCRAPERS.

Tender documents, returnable by 9.30 a.m. on 6th JUNE, 1960, from the CITY SURVEYOR, Town Hall, Manchester, 2.

SUNBURY - ON - THAMES URBAN DISTRICT COUNCIL.

TENDERS invited by Noon, 4th MAY, 1960, from contractors with suitable plant and equipment at their disposal for the PERIODICAL CLEANSING of approx. 3,000 GULLIES within the Urban District during the year ending 31st March, 1961.

Specification, Form of Tender, etc., obtainable from the Engineer and Surveyor, Council Offices, Green Street, Sunbury-on-Thames.

T. L. WATTS,
Clerk of the Council.

13th April, 1960.

ARNOLD URBAN DISTRICT COUNCIL.

TENDERS are invited for the SUPPLY and DELIVERY of MATERIALS for the period ending 31st March, 1961, as follows:—

(1) Tarred and Bituminous Roadstone (Slag and Limestone).
(2) Tarred and Bituminous Roadstone (Slag and Limestone) Supplied and Machine Laid.
(3) Dry Roadstone and Chippings.
(4) Cement and Concreting Materials.
(5) Precast Concrete Products.
(6) Cast Manhole Covers and Frames, etc.
(10) Dustbins.

Applications, quoting appropriate reference number, for Forms of Tender, Specifications and Conditions of Contract to be made to the Engineer and Surveyor, Arnot Hill House, Arnold, Nottingham.

Tenders, on the forms provided, must be delivered to the undersigned not later than 12 Noon on TUESDAY, the 3rd May, 1960, in plain sealed envelopes, marked "Tender No. ——, Annual Contract."

The Council do not bind themselves to accept the lowest or any Tender.

A. H. JAMES,
Clerk of the Council.

Clerk's Office,
Arnot Hill House,
Arnold, Notts.

CONTRACTS

BEDFORDSHIRE COUNTY COUNCIL.

EDUCATION COMMITTEE.

MANDER COLLEGE, CAULDWELL STREET, BEDFORD.

TENDERS are invited for the CLEANING OF WINDOWS of MANDER COLLEGE during the Summer and Christmas holidays, 1960, and Easter holiday, 1961.

The main building consists of Eight Storeys up to a height of approx. 100ft. and is glazed from floor to ceiling on each floor on two sides of the building, each 140ft. long. A travelling cradle will be provided.

Quotations should include Cleaning of Windows of the Temporary Single-storey Buildings, comprising 24 Classrooms with connecting corridors.

The lowest or any Tender will not necessarily be accepted.

Further particulars from the undersigned.

T. S. LUCKING,
Director of Education.

Shire Hall,
Bedford.

CITY OF BIRMINGHAM.

TO BUILDING CONTRACTORS.

CONTRACT 730 (A-C)—20 DWELLINGS—HANDSWORTH AND KINGSTANDING AREAS.
CONTRACT 730 (D-H)—25 DWELLINGS—SHARD END AND SHELDON AREAS.
CONTRACT 730 (O-R)—50 DWELLINGS—BRANDWOOD AND KINGS NORTON AREAS.
CONTRACT 730 (S-U)—16 DWELLINGS—HARBORNE AND NORTHFIELD AREAS.

The HOUSEBUILDING COMMITTEE invite FIRM-PRICE TENDERS for the ERECTION of the ABOVE, comprising BUNGALOWS and TWO-STOREY FLATS, on various small sites in the areas shown.

Bills of Quantities and Forms of Tender will be forwarded on payment of £2 2s. for each Contract at the Office of A. G. SHEPPARD FIDLER, City Architect, Civic Centre, Birmingham, 1, to whom all cheques should be made payable. Applications should be made by 20th APRIL, 1960. Conditions of Contract (which include the usual Fair Wages and Conditions of Labour Clause) may be seen at the City Architect's Office during normal working hours.

The deposits will be returned on receipt of bona-fide Tenders or on notification of inability to tender, together with the return of the documents not later than three days before the date for receipt of Tenders.

Tenders, enclosed in the envelopes provided for the purpose, must be sealed and delivered to the Town Clerk's Office (Room No. B.31), Council House, Birmingham, 1, not later than 12 Noon on FRIDAY, the 20th May, 1960. Tenders received after that time will be rejected.

The Committee do not bind themselves to accept the lowest or any Tender.

T. H. PARKINSON,
Town Clerk.

Council House,
Birmingham, 1.

CITY OF BIRMINGHAM.

TO BUILDING CONTRACTORS.

CONTRACT 715—14 ONE- AND TWO-STOREY DWELLINGS, WOODCOCK LANE, WOODCOCK HILL ESTATE, NORTHFIELD.

The HOUSEBUILDING COMMITTEE invite FIRM-PRICE TENDERS for the ERECTION of the ABOVE.

Bills of Quantities and Form of Tender will be forwarded on payment of £2 2s. at the Office of A. G. SHEPPARD FIDLER, City Architect, Civic Centre, Birmingham, 1, to whom all cheques should be made payable. Applications should be made by 20th APRIL, 1960. Conditions of Contract (which include the usual Fair Wages and Conditions of Labour Clause) may be seen at the City Architect's Office during normal working hours.

The deposit will be returned on receipt of a bona-fide Tender or on notification of inability to tender, together with the return of the documents not later than three days before the date for receipt of Tenders.

Tenders, enclosed in the envelopes provided for the purpose, must be sealed and delivered to the Town Clerk's Office (Room No. B.31), Council House, Birmingham, 1, not later than 12 Noon on FRIDAY, the 20th May, 1960. Tenders received after that time will be rejected.

The Committee do not bind themselves to accept the lowest or any Tender.

T. H. PARKINSON,
Town Clerk.

Council House,
Birmingham, 1.

STANWAY PARISH COUNCIL.

TRUNK ROAD LIGHTING.

LONDON-GREAT YARMOUTH, T.R. A.12.

Stanway Parish Council invite TENDERS for a SYSTEM of Group "A" LIGHTING, consisting of 19 140-Watt Sodium Lanterns mounted on 25ft. Concrete Columns.

Details obtainable from H. C. MILLER, Clerk to the Council, 24 Villa Road, Stanway, Colchester, Essex.

BURNHAM PARISH COUNCIL.

TRUNK ROAD LIGHTING SCHEME.

The Council are undertaking a Group "A" LIGHTING SCHEME, which includes the Supply, Erection and Commissioning of 33 Lamps, on the A.4 BATH ROAD, Burnham, Bucks.

Firms wishing to tender should make written application for tender documents before the 22nd APRIL, 1960, to the CLERK TO THE BURNHAM PARISH COUNCIL, 1 Evreham Road, Iver, Bucks.

WANDLE VALLEY JOINT SEWERAGE BOARD.

REPLACEMENT OF CLINKER MEDIA—BACTERIA BED NO. 2, SOUTH WORKS.

TENDERS from experienced contractors are invited for the REPLACEMENT of CLINKER MEDIA in Bacteria Bed No. 2, South Works (approx. 8,900 cu. yd. of media).

Specification, Bill of Quantities, Form of Tender and Plan may be obtained from the Surveyor to the Board, Town Hall, Mitcham, Surrey.

Tenders, in the envelope provided, must be delivered to me by First Post on MONDAY, 9th May, 1960.

The Board does not bind itself to accept the lowest or any Tender.

HARRY MAY,
Clerk of the Board.

Sewage Disposal Works,
Byegrove Road,
London, S.W.19.
7th April, 1960.

CONTRACTS

COUNTY BOROUGH OF BURNLEY.

HEATING AND PLANING.

TENDERS are invited for the HEATING and PLANING of approx. 21,000 sq. yd. of CARRIAGEWAY within the County Borough.

Tender documents may be obtained from the Borough Engineer and Surveyor, 22/24 Nicholas Street, Burnley, on payment of a deposit of £1, returnable on receipt of a bona-fide Tender.

Tenders are to be returned to the undersigned not later than 9 a.m. on the 30th APRIL, 1960.

The Council does not bind itself to accept the lowest or any Tender.

C. V. THORNLEY,
Town Clerk.

CHISLEHURST AND SIDCUP URBAN DISTRICT COUNCIL.

PERRY STREET, CHISLEHURST.

TENDERS invited for ERECTION of PREFABRICATED CONCRETE BUILDING and ALTERATION to existing CANTEEN.

Documents from Engineer and Surveyor, Manor House, Sidcup, on deposit of Two Guineas.

Tenders to undersigned by 29th APRIL, 1960.

T. W. FAGG,
Clerk of the Council.

Sidcup Place,
Sidcup, Kent.

TECHNICAL ESTIMATING SERVICES introduced by R. J. CARR. The only service of its kind in the country.—Westleigh House, 42 Coombe Road, New Malden, Surrey. Tel.: Malden 8640.

HAVERHILL, SUFFOLK.—FIXED-PRICE TENDERS are invited for a small FACTORY and OFFICES of 2,700ft. super. Bills of Quantities and Drawing obtainable from J. C. MYERS, Chartered Architect, High Street, Haverhill, Suffolk, on deposit of £4 4s., after April 19th. Estimate due MAY 6th. Completion NOVEMBER 6th, 1960.

QUOTATIONS WANTED for BULK EXCAVATION in Shropshire. — Write Box X.1684, "The Contract Journal."

For Contracts received too late for classification see page 205

APPOINTMENTS VACANT

WHITTLESEY URBAN DISTRICT COUNCIL.

APPOINTMENT OF RESIDENT ENGINEER.

APPLICATIONS are invited for the APPOINTMENT of RESIDENT ENGINEER to supervise the laying of water mains and the execution of extensions to the Council's Sewage Disposal Works.

The work will be executed under two separate Contracts, following consecutively, and will be under the direction of the Council's Consulting Engineers, MESSRS. G. B. KERSHAW AND KAUFMAN.

The salary will be at the rate of £1,350 per annum, plus one increment of £100 per annum after 12 months' employment, subject to satisfactory service, plus car allowance on the Council's scale. The duration of the appointment will be approx. 18 to 21 months, determinable by one month's notice.

It is essential that applicants shall have had wide experience in a senior capacity on similar works.

Applications, endorsed "Resident Engineer, Whittlesey Water and S.D. Works," stating age, qualifications, and experience, set out in chronological order, together with copies of three testimonials or the names of three persons to whom reference can be made, must be delivered to the undersigned not later than 12 Noon on WEDNESDAY, the 27th April, 1960.

H. KEWISH,
Clerk of the Council.

Council Offices,
Whittlesey,
Near Peterborough
6th April, 1960.

WELWYN GARDEN CITY URBAN DISTRICT COUNCIL.

ENGINEER AND SURVEYOR'S DEPARTMENT.

APPOINTMENT OF SENIOR AND ASSISTANT ENGINEERS.

APPLICATIONS are invited for the FOLLOWING PERMANENT APPOINTMENTS in the Department of the Engineer and Surveyor:

(1) Senior Assistant Engineers—Special Grade (£785-£1,070).
(2) Assistant Engineer—A.P.T. Grade I (£610-£765).

Commencing salary to be within the Grade up to the maximum in accordance with qualifications and experience.

The appointments are subject to the following conditions: (a) The provisions of the Local Government Superannuation Acts; the successful candidates will be required to pass satisfactorily a medical examination. (b) one month's notice on either side.

Applications, stating age, qualifications, experience, and giving the names of two persons to whom reference can be made, should be sent to the Engineer and Surveyor not later than the 30th APRIL, 1960.

Canvassing disqualifies.

Housing accommodation will be considered for the senior posts.

L. J. SLOCOMBE,
Clerk of the Council.

Council Offices,
Welwyn Garden City.
4th April, 1960.

COVENTRY CORPORATION.

The FOLLOWING STAFF is REQUIRED in Civil and Structural Engineering Section of City Engineer's Department.

(a) Senior Assistant Engineer — A.P.T. V (£1,220-£1,375), commencing according to qualifications experience. A.M.I.Struct.E. or other suitable qualification, and considerable experience design and construction in reinforced concrete essential. Some experience structural steelwork advantageous.
(b) Assistant Engineers—Special £785-£1,070) or A.P.T. IV (£1,065-£1,220), commencing according to qualifications experience. Previous experience design and detailing reinforced concrete structures essential.

Programme of major development offers exceptional opportunities for experience of interesting and varied work.

Housing accommodation may be available. Removal expenses loan (up to £50).

Application Forms from CITY ENGINEER, Council House, Coventry, returnable by 30th APRIL.

APPOINTMENTS VACANT

STAFFORDSHIRE COUNTY COUNCIL.

COUNTY ROADS AND BRIDGES DEPARTMENT.

APPLICATIONS are invited for the FOLLOWING APPOINTMENTS:

(a) Senior Assistant Engineer (Bridges).—Salary Scale J.N.C. "B" (£1,255-£1,485).

The successful candidate will be responsible for all bridge design, construction and maintenance, including motorway bridges. Applicants must be suitably qualified and have had considerable experience in bridge design, construction and maintenance. A modern house will be available for the successful candidate.

(b) Senior Engineering Assistant.—Salary Grades A.P.T. VI (£1,220-£1,375); Special (£785-£1,070).
(c) Laboratory Assistant.—Salary Grade Special (£785-£1,070).
(d) Engineering Assistants. — Salary Grades A.P.T. I (£610-£765); A.P.T. II (£765-£880).
(e) Surveying Assistants and Draughtsmen.—Salary Grades Misc. III (£525-£590), Misc. IV (£590-£650).
(f) Tracers.—Salary Grade General Division: Male (£210-£595); Female (£206-£579). Commencing salary according to age and experience.

Applicants for senior posts must be fully qualified and have had experience in road and/or bridge design and construction.

All appointments are subject to the provisions of the Local Government Superannuation Acts, 1937/53.

The County Council will, for a period of six months, grant a lodging allowance of 35s. per week and second-class return railway fare home every two months during that period to the successful candidate, if married and maintaining a home outside the geographical county. The Council will also consider granting financial assistance towards any expenses reasonably incurred in connection with the removal of a successful applicant's furniture and household goods.

Canvassing of members of the Council or any Committee of the Council, directly or indirectly, will be a disqualification.

Applications, on the appropriate forms, which can be obtained from the County Surveyor, County Buildings, Stafford, should reach him by not later than 10 a.m. on MONDAY, the 25th April, 1960.

T. H. EVANS,
Clerk of the County Council.

County Buildings,
Stafford.

MERIONETH COUNTY COUNCIL.

HIGHWAYS AND BRIDGES DEPARTMENT.

APPLICATIONS are invited for the APPOINTMENT of one ASSISTANT ENGINEER, Grade A.P.T. II of the National Joint Council Scales of Salaries.

Applicants should have had good experience in the design and preparation of road and bridge schemes.

Preference will be given to candidates who are suitably qualified and have had previous experience under a County Authority.

Applications, on the Council's application forms must be received by the COUNTY CLERK, County Offices, Penarlag, Dolgellau, by not later than MONDAY, 25th April, 1960.

COUNTY BOROUGH OF OLDHAM.

BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT.

APPOINTMENT OF BUILDING INSPECTOR.

APPLICATIONS are invited for the APPOINTMENT of a BUILDING INSPECTOR in my Department at a salary in accordance with A.P.T. Grades I and II (£610 per annum, rising to £880 per annum). The successful candidate will be placed on an increment in these Grades in accordance with his qualifications, experience and ability.

Candidates should be experienced in the examination of plans in connection with Building by-laws, the Public Health Acts, and in the supervision of building operations.

The appointment is superannuable, subject to the passing satisfactorily of a medical examination, and is terminable by one month's notice on either side.

Applications, stating age, qualifications, experience, and accompanied by copies of two recent testimonials, or the names of two persons to whom reference may be made, should reach me not later than MONDAY, the 18th April, 1960, in envelopes endorsed "Building Inspector."

A. L. HOBSON,
Borough Engineer and Surveyor.

75 Union Street,
Oldham.

BOROUGH OF BURY ST. EDMUNDS.

SEWAGE DISPOSAL WORKS.

CONTRACT NO. 1.

RESIDENT ENGINEER.

APPLICATIONS are invited by the Council from persons of exceptional experience for the APPOINTMENT of RESIDENT ENGINEER to supervise, under the direction of the Engineers, MESSRS. WILLCOX, RAIKES AND MARSHALL, the construction of a sewage disposal works and other incidental works, the construction of which has already commenced.

The period of the contract for the work, which governs the length of the appointment subject to satisfactory service, is 18 months. The appointment will be determinable on two months' notice given by either side.

Applications, giving full details of experience, age, when disengaged, salary required, with references or copies of recent testimonials, should be sent to the undersigned immediately.

RICHARD R. HILES,
Town Clerk.

Borough Offices,
Bury St. Edmunds.

CITY OF OXFORD.

WATER UNDERTAKING—MAINS SUPERINTENDENT.

APPLICATIONS are invited for the APPOINTMENT of MAINS SUPERINTENDENT for the Oxford Area of Supply, at a salary in accordance with Grade A.P.T. V (£1,220-£1,375 per annum).

Candidates should have had wide experience of operating and maintaining a water distribution system, mainlaying, the supervision and control of stores, plant and equipment, and the handling of men.

A car allowance is payable on the essential user basis, and housing accommodation will be available if required.

Applications, on forms provided, to be received by the City Water Engineer, 65 St. Aldate's, Oxford, not later than 29th APRIL, 1960.

HARRY PLOWMAN,
Town Clerk.

Town Hall,
Oxford.

APPOINTMENTS VACANT

SHROPSHIRE COUNTY COUNCIL.

ROADS AND BRIDGES DEPARTMENT.

The County Surveyor's Department has vacancies on its Headquarters Engineering Establishment and invites APPLICATIONS for APPOINTMENTS within the Salary Grades A.P.T. IV (£1,025-£1,175) and Special Grade (£785-£1,070).

The Department has a variety of work on roads and bridges, both indoors and outdoors. Appointments subject to N.J.C. conditions; superannuation scheme, and medical examination. Canteen facilities; car allowances; temporary separation allowance for married men, and help with housing when practicable.

Experience in roads and/or bridges essential. Local Government experience not vital.

Applications in writing to the COUNTY SURVEYOR, Shirehall, Shrewsbury, by 30th APRIL, 1960. No forms issued.

WELWYN GARDEN CITY AND HATFIELD DEVELOPMENT CORPORATIONS.

CHIEF ENGINEER'S DEPARTMENT.

ENGINEERING CLERK OF WORKS.

APPLICATIONS are invited from Engineering Clerks of Works for the supervision of construction of roads and sewers in connection with large estate and town centre redevelopment, and candidates should have had considerable experience. The appointment, which is superannuable, is subject to one month's notice on either side, at a commencing salary of up to £1,025 p.a., subject to satisfactory experience. Housing accommodation is available.

Applications, together with names of two referees, stating present salary, date of birth, and whether married or single, should be addressed to the GENERAL MANAGER, Church Road, Welwyn Garden City, Hertfordshire, and be received not later than THURSDAY, 28th April, 1960.

WYMONDHAM URBAN DISTRICT COUNCIL.

EXTENSION AND RECONSTRUCTION OF SEWAGE DISPOSAL WORKS.

RESIDENT ENGINEER.

APPLICATIONS are invited for the APPOINTMENT of RESIDENT ENGINEER to supervise, under the direction of the Consulting Engineers, the extension and reconstruction of the Sewage Disposal Works at Wymondham, Norfolk.

The salary will be at the rate of £1,050 per annum and work is expected to commence in May, 1960. The appointment, subject to satisfactory service, is expected to last for about 18 months and may be terminated on one month's notice on either side.

Applicants, who must have had considerable experience on similar work, should apply in writing to the undersigned not later than TUESDAY, 26th April, 1960, giving full details of age, qualifications, and previous appointments, together with the names of two persons to whom reference can be made.

Envelopes containing applications should be marked "Resident Engineer," and canvassing in any form will disqualify.

T. J. TURNER,
Clerk to the Council.

Council Offices,
Middleton Street,
Wymondham, Norfolk.
6th April, 1960.

CARMARTHEN RURAL DISTRICT COUNCIL.

INSPECTORS OF WORKS—WATER SCHEMES.

The Council invite APPLICATIONS for two POSTS of INSPECTOR for the construction of reinforced concrete service reservoirs, booster stations, and pipelines in the Rural District. The duration of the appointment is estimated to be about two years, and possibly longer.

Applicants should have had experience on similar public works.

The wage will be from £12 to £14 a week, according to age and experience, together with a travelling allowance at the casual user's rate, not exceeding 10-h.p. car.

Applications are to be submitted to the Council's Consulting Engineers, MESSRS. HERBERT LAPWORTH PARTNERS, 25 Victoria Street, London, S.W.1, on or before MONDAY, 25th April, 1960.

T. ERNEST WILLIAMS,
Clerk.

Council Offices,
3 Spilman Street,
Carmarthen.
4th April, 1960.

CARMARTHEN RURAL DISTRICT COUNCIL.

RESIDENT ENGINEER.

The Council invite APPLICATIONS for the POST of RESIDENT ENGINEER for the construction of reinforced concrete service reservoirs, booster stations, and pipelines in the Rural District. The duration of the appointment is estimated to be about two years, and possibly longer.

Applicants should preferably be Corporate Members of the Institution of Civil Engineers and should have had experience on similar public works.

The salary will be from £1,000 to £1,200 per annum, according to age, qualifications and experience, together with the provision of free transport to supervise the works.

Applications are to be submitted to the Council's Consulting Engineers, MESSRS. HERBERT LAPWORTH PARTNERS, 25 Victoria Street, London, S.W.1, on or before MONDAY, 25th April, 1960.

T. ERNEST WILLIAMS,
Clerk.

Council Offices,
3 Spilman Street,
Carmarthen.
4th April, 1960.

COVENTRY CORPORATION.

APPLICATIONS REQUIRED for the FOLLOWING:

(a) Senior Assistant Engineer — A.P.T. V (£1,220-£1,375)—for design and supervision of civil engineering work incorporated in City Redevelopment Programme.

(b) Assistant Engineers—A.P.T. IV (£1,065-£1,220) or Special (£785-£1,070)—for redevelopment and road improvement work; and

(c) Assistant Engineer—A.P.T. IV—in connection with main drainage and capital works programme.

Commencing salaries according to qualifications/experience.

Housing accommodation may be available. Interest-free removal expenses loan (up to £50) paid where necessary.

Application Forms from CITY ENGINEER, Council House, Coventry, returnable by 30th APRIL.

APPOINTMENTS VACANT

GOVERNMENT OF KENYA.

ENGINEERS, MINISTRY OF WORKS.

Qualifications: Candidates (not over 45) should have either a University degree, or equivalent, recognised by the Institution of Civil Engineers, and two years' practical experience; or have passed, or be otherwise exempt from, Parts I and II of the final examination of the Institution of Civil Engineers and have had not less than five years' practical experience.

Duties: General civil engineering duties in connection with buildings, roads, water supplies, etc., under the direction of the Engineer-in-charge of a Division.

Terms: On contract for one tour of 24-45 months in the first instance, with salary in scale £1,194 to £1,863 p.a. and gratuity on the satisfactory completion of engagement.

Free passages. Generous home leave. Free medical attention. Taxation at local rates.

Apply DIRECTOR OF RECRUITMENT, Colonial Office, London, S.W.1. Give full name and age, and brief details of qualifications and experience. Quote BCD112/7/018/D14.

LANCASHIRE COUNTY COUNCIL.

COUNTY SURVEYOR'S DEPARTMENT.

BIRMINGHAM-PRESTON MOTORWAY.

LANCASHIRE LENGTH (WOOLSTON TO BAMBER BRIDGE).

APPLICATIONS are invited for the APPOINTMENT of ASSISTANT CLERKS OF WORKS for the supervision of (a) roadworks and (b) bridgeworks on the above Scheme.

Applicants should have a thorough knowledge of: (a) Modern methods of highway construction, including the use of heavy earthmoving equipment and the mechanical laying of granular materials and coated macadam; or (b) Bridge and/or civil engineering construction in steel, reinforced concrete, brick and masonry, together with ancillary roadworks.

They should have experience in setting-out and monthly measurements, and preferably should have had previous experience as Clerks of Works.

The posts are temporary and the wage will be £16 10s. per week plus subsistence allowance for week-end working.

Applications to the COUNTY SURVEYOR AND BRIDGEMASTER, P.O. Box No. 9, Preston, by not later than 21st APRIL, 1960, quoting Ref. No. 100/12.

EAST LOTHIAN COUNTY COUNCIL.

QUANTITY SURVEYING ASSISTANT.

APPLICATIONS are invited for an APPOINTMENT in the Property and Works Department. Salary Scale £700 to £760 per annum, with appropriate placing.

Applicants should be at least of Intermediate standard, or equivalent.

Superannuation. Person appointed may reside in Edinburgh if desired. Housing accommodation may be made available if required.

Applications, stating age and experience, with names and addresses of two referees, to the undersigned by 26th APRIL, 1960.

THOS. GIBB,
County Clerk.

County Buildings,
Haddington.

CITY AND COUNTY OF KINGSTON UPON HULL.

CITY ENGINEER'S DEPARTMENT.

APPOINTMENT OF TECHNICAL STAFF.

APPLICATIONS are invited for the APPOINTMENT of an ENGINEERING ASSISTANT, A.P.T. Grade IV (£1,065-£1,220 per annum), commencing salary according to experience.

Applicants must be Corporate Members of the Institution of Civil Engineers and/or hold the Testamur of the Institution of Municipal Engineers, or be Associates of the Royal Institute of Chartered Surveyors. Experience in the design and maintenance of buildings for baths, washhouses, markets, etc., would be an advantage.

Housing accommodation will be made available for the successful married candidate not already resident within the city. Consideration will be given to a contribution towards removal expenses.

Applications, on forms which can be obtained from the City Engineer, Guildhall, Kingston upon Hull, are to be returned not later than the 30th APRIL, 1960.

WM. MORRIS, O.B.E.,
City Engineer.

Guildhall,
Kingston upon Hull.

CITY OF BRADFORD.

SENIOR QUANTITY SURVEYOR.

APPLICATIONS are invited for the SUPERANNUABLE APPOINTMENT of SENIOR QUANTITY SURVEYOR (Post No. 170) in the City Engineer and Surveyor's Department, on A.P.T. IV (£1,065-£1,220).

Candidates should be A.R.I.C.S. and should be capable of undertaking all stages of work in the preparation of Bills of Quantities and other contract documents, measurement of work, preparation of certificates for payment of interim and final accounts in connection with multi-storey flats, houses, shops, etc., on large housing estates.

Application forms, obtainable from the City Engineer and Surveyor, Town Hall, Bradford, 1, with three testimonials, must be received by the undersigned by 2nd MAY, 1960.

HENRY PATTEN,
Town Clerk.

Town Hall,
Bradford, 1.

CITY OF BRADFORD.

CLERK OF WORKS.

APPLICATIONS are invited for the APPOINTMENT of CLERK OF WORKS (Post 172) in the Contract Housing Section of the City Engineer and Surveyor's Department at a salary on Grade A.P.T. I (£610-£765).

Candidates must have had experience as a Clerk of Works or General Foreman in the construction of houses and should hold the Higher National Certificate.

Application forms, obtainable from the City Engineer and Surveyor, Town Hall, Bradford, 1, with three testimonials, must be received by the undersigned by 2nd MAY, 1960.

HENRY PATTEN,
Town Clerk.

Town Hall,
Bradford, 1.

W. AND C. FRENCH, LTD., urgently REQUIRE fully experienced BONUS SURVEYORS for civil engineering and building contracts.—Apply in writing, stating age, experience, and salary required, to Personnel Manager, 50 Epping New Road, Buckhurst Hill, Essex, and quoting Ref. No. 360.

APPOINTMENTS VACANT

ASSISTANT CIVIL ENGINEERS REQUIRED for reinforced concrete, and pipelaying contracts in Yorkshire and Lancashire. These will be permanent appointments, with opportunity for advancement. Applicants must have site experience and be accurate with instruments.—Write, giving details of experience, qualifications, and salary required, to Box V.1649, "The Contract Journal."

SITE ENGINEERS REQUIRED for roads, sewers and bridge contracts. Must be capable of supervising contracts, instrument work, measurements and valuations. These are progressive posts, with salary according to qualifications and experience.—Applications in writing to CHAPMAN AND DOWD, LTD., Butlin Street, Birmingham, 7.

W. C. YOUNGMAN, LTD.—An outstanding opportunity for a SALESMAN presented itself in an advertisement appearing on page 14 in last week's "The Contract Journal."

OVERSEAS OPPORTUNITIES

GENERAL FOREMEN REQUIRED for contracts in Trinidad, West Indies. Preference for men with carpentry and joinery training and experience in general building construction, concrete and high-class finishings. Applicants should state their marital status, and single men or married men able to travel unaccompanied are preferred. Initial tour 18 months. Applicants should give full details of age, education, qualifications and past and present employment and experience (in confidence) to:

Personnel Officer,
HOLLAND & HANNEN AND CUBITTS (NORTH-WEST), LTD.,
Building and Civil Engineering Contractors,
New Chester Road, Bromborough, Wirral, Cheshire.

DEPOT MANAGER for Birmingham REQUIRED by well-known plant hire company operating fleet of machines in West Midlands and adjoining areas. Good opportunity for man with sound maintenance and managerial ability. Company car provided. Contributory pension scheme. — Apply, stating age, present salary, and full details of career to date, to General Manager, Box V.1627, "The Contract Journal."

AGENT REQUIRED for sewage disposal works near Leicester. 18-month contract, with excellent prospects of permanent employment. Must be experienced in this type of work and be capable of assuming full control.—Write, stating experience, salary, etc., to Box V.1651, "The Contract Journal."

ESTIMATOR, experienced in tendering for civil engineering works, REQUIRED for permanent, superannuated appointment.—Applications, with particulars of age, experience, salary required, to the Managing Director, CURRALL, LEWIS AND MARTIN, LTD., 11 Booth Street, Birmingham, 21.

HUGH LEGGAT, LTD.

Have the following vacancies on their pensionable staff:

CIVIL ENGINEERING ESTIMATOR

Engineer with extensive contracting experience in heavy C.E. works and minimum of two years' estimating experience with reputable company. First-class opportunity for competent man, preferably with Scottish connections, and not less than 28 years of age, to secure important post with excellent salary and other conditions.—Applications, in confidence, stating full particulars of age, qualifications, past and present experience and employers, to Managing Director, marked "C.E. Estimator."

GENERAL FOREMAN (BUILDING

Top-grade General Foreman with proven experience in similar capacity with reputable firms. Must have experience in active control of large contracts, including R.C. multi-storey flats, factories and public buildings. Excellent opportunity for man wishing to return to Scotland after experience with southern contractors. Top wages, allowances and other conditions for first-class man with drive.—Applications, in confidence, to Building Manager, giving full details of age, experience, past and present employers, marked "G.F. Building."

HUGH LEGGAT, LTD.,
C.E. and Building Contractors,
Barrhead, Glasgow.

DICK HAMPTON REQUIRES ENGINEER for progress measurements and to act as assistant to quantity surveyor. Broad scope for ambitious young man in expanding organisation which, in addition to other work, has excavation sub-contracts for 22 miles of road construction and two airfields. — DICK HAMPTON, Broadview Farm, Blacknest, Alton, Hants. Tel.: Bentley 2241.

ASSISTANT CIVIL ENGINEERS REQUIRED urgently by civil engineering contractors, for site work in Dumbarton, Monmouth, Home Counties and Midlands, and for concrete design in London. The work in the design office is probably temporary and would be followed by site work. Staff pension and life assurance scheme (non-contributory) in operation. Written applications, stating age, qualifications (if any), training and experience, to Box V.1624, "The Contract Journal."

ROBERT M. DOUGLAS (CONTRACTORS), LTD., REQUIRE AGENTS, SUB-AGENTS and SECTION ENGINEERS for motorway construction, reinforced concrete structures, and other works. — Apply in writing, stating age, experience, qualifications, and salary required, to 395 George Road, Birmingham, 23.

SURVEYOR

REQUIRED by old-established and expanding Cambridge building firm for site measurement, interim certificates and preparation of final accounts up to £½m. Excellent salary for man with right experience and qualifications.—Full details, in confidence, to:

BOX V.1606, "THE CONTRACT JOURNAL."

SITE ENGINEER REQUIRED for roadworks and main drainage contracts in Home Counties. A salary range of £800/£1,000 p.a., with good prospects for a keen young man who is competent and experienced in setting-out, etc.—Apply in writing, giving details of training and experience, age and previous employers, etc., to Box V.1605, "The Contract Journal."

SENIOR and **JUNIOR ESTIMATORS** REQUIRED, based on London and Rotherham. Excellent prospects and permanencies with appropriate benefits to applicants of proved experience and ability.—Fullest details, in strict confidence, stating area and for which position applying, marked "D.H.T.," SHEPHARD, HILL AND CO., LTD., 25 Central Chambers, W.5.

APPOINTMENTS VACANT

REQUIRED at once—Two **SITE ENGINEERS** for tunnel and aqueduct contract near Glasgow. Age 26/30 years and single preferred, with experience of setting-out, measurement and control of works. Write Box V.1626, "The Contract Journal."

ARCHITECTURAL ASSISTANT REQUIRED by Merseyside firm of building and civil engineering contractors (whose head office is in London), for interesting and varied work in their industrial building department. Candidates should be of intermediate R.I.B.A. standard, or equivalent, capable of making site surveys, preparing working drawings and specifications with minimum supervision and with a knowledge of reinforced concrete design.—Please write, stating age, experience, and salary required, to Box V.1622, "The Contract Journal."

CHARTERED QUANTITY SURVEYOR

(A.R.I.C.S.) REQUIRED for minimum period of two years on steelworks contract in India. Professional appointment involving negotiating of rates on a schedule of rates contract, together with good knowledge of contract administration. Excellent tax-free salary. Car and accommodation provided. Full details will be given at interview to be held in London, week commencing 25th April.—Write, giving status, age, education, experience, technical qualifications and salary required, to:

BOX V.1594, "THE CONTRACT JOURNAL."

CIVIL ENGINEERS and Building Contractors situated in the North-West REQUIRE ENGINEERING SURVEYOR to take charge of all preliminary site surveys 100 to 150,000 sq. ft. units throughout the country, ancillary work, and the development of surveys to assist architectural department in proceeding with designs, etc., liaising with sub-structure division for work to be carried out. Good salary commensurate with ability and experience. Minimum age 30 years. Apply in writing, stating salary required, to Director of Civil Engineering, Box V.1623, "The Contract Journal."

CIVIL ENGINEER: AGENT REQUIRED to take control R.C. contracts. Degree or A.M.I.C.E. an advantage. Permanent post with good prospects. Own staff notified of vacancy.—Write, stating age, qualifications, experience, salary, to Box V.1618, "The Contract Journal."

W. AND C. FRENCH, LTD., civil engineering and building contractors, REQUIRE at their L.C.C. Southern Outfall Contract, Belvedere, Kent: TWO GENERAL FOREMEN, preferably time - served carpenters with specialised experience of shuttering and overall control for reinforced concrete construction of water retaining structures. Staff benefits offered. Applications will only be considered from persons at present earning a minimum of £1,000 per annum basic salary, and who have supervised large-scale contracts. Apply in writing, stating age, experience, salary required, and enclosing references, to Personnel Manager, 50 Epping New Road, Buckhurst Hill, Essex, quoting reference number 66.

CUBITTS

HOLLAND & HANNEN AND CUBITTS (OVERSEAS) LTD., have vacancy in the Middle East for a **CIVIL ENGINEERING SUB-AGENT** for a tour of approx. 12 months. Free bachelor accommodation, and generous cost-of-living and kit allowance. The appointment offers good prospects, and initial interviews can be arranged in various parts of the United Kingdom.—Write, in confidence, giving age, qualifications and details of experience, to:

Personnel Manager (CJ/J.5441),
HOLLAND & HANNEN AND CUBITTS (OVERSEAS), LTD.,
1 Queen Anne's Gate, London, S.W.1.

SALES REPRESENTATIVE for medium-sized tractors, Northern England area. Salary and car by arrangement.—Write Box V.1619, "The Contract Journal."

SITE AGENT for land clearance contractors. Willing to work anywhere in the country. Salary and car by arrangement.—Write Box V.1620, "The Contract Journal."

EXPERIENCED QUANTITY SURVEYOR REQUIRED for civil engineering contracts. Sound knowledge of interim valuations, final accounts and sub-contractors accounts essential. Permanent position for suitable applicant.—Reply, giving fullest details of previous experience, age, references, salary required and date available, to WARINGS (CONTRACTORS), LTD., Hilsea, Portsmouth.

SUB-AGENT REQUIRED by major civil engineering and building contractors operating on a national scale on nuclear, steam and hydro-electric projects. This permanent appointment is initially for a major civil engineering contract, with excellent opportunities for advancement. Good salary and conditions and entry into superannuation scheme after 12 months' service.—Applications to Box V.1616, "The Contract Journal."

SITE AGENT

Due to ill-health, an immediate vacancy exists for an experienced **AGENT** to take charge of a large multi-storey building contract in Lancashire. Generous salary, out-allowance and use of company vehicle for man capable of controlling R.C. construction, all building trades and sub-contractors. This is a permanent appointment with excellent prospects of promotion. Pension fund in operation.—Reply, in confidence, quoting reference SC.12, stating age previous experience in this class of work, to:

Contract Labour Department,
SIMON-CARVES, LTD.,
Cheadle Heath, Stockport, Cheshire.

SENIOR ENGINEER/AGENT REQUIRED by civil engineering contractors, mainly operating in the Surrey, Hants. and Berks. areas. A salary range of £1,300/£1,500 p.a. will be offered to applicant of proven ability, possessing initiative and drive. Permanent and progressive post, with superannuation scheme in operation.—Write in confidence, stating age, full details of experience, etc., to Box V.1604, "The Contract Journal."

W. AND C. FRENCH, LTD., urgently REQUIRE experienced **ENGINEERS,** preferably qualified, for building and civil engineering contracts in the Home Counties. Good prospects for suitable applicants. Apply in writing to Personnel Manager, 50 Epping New Road, Buckhurst Hill, Essex, stating age, experience, and salary required, and quoting Ref. No. 250.

APPOINTMENTS VACANT

WESTERN CONTRACTORS SERVICES, LTD., Distributors of International Tractors and Drott Skid Shovels, invite applications to fill the following vacancies in their expanding organisation: JUNIOR SALES ENGINEERS, well educated, with an engineering background and preferably with previous experience in the construction equipment field; MANAGEMENT TRAINEES, aged 20-25, preferably single and prepared to study all aspects of the company's business, with a view to future promotion to supervisory and managerial positions. A good education is necessary, and preference will be given to applicants who have a H.N.C. in mechanical engineering. Applicants must be free to move initially between any of the company's depots in the West of England. The above appointments are permanent and progressive; a superannuation scheme operates after a qualifying period and a car will be provided by the company where appropriate; FIELD SERVICE ENGINEERS: Vacancies also available for first-class Fitters, fully skilled and capable of major overhauls of crawler tractors with minimum supervision. Must be mobile and willing to be based anywhere in the South-West.—Apply in strict confidence to Western Contractors Services, Ltd., Hallen Works, Hallen, Bristol.

AGENT and FOREMAN/AGENT

REQUIRED for work in London and Home Counties area. Permanent post with excellent opportunities for men fully experienced in road construction and improvement works, capable of controlling contracts to final measurement.—Apply, giving full details, age, experience, etc., to:

W. AND J. GLOSSOP, LTD.,
123 East Hill, Wandsworth, S.W.18.

ASSISTANT CIVIL ENGINEERS REQUIRED for civil engineering and building contracts. Permanent appointments with excellent opportunities for advancement. Good salary and conditions and entry into superannuation scheme after 12 months' service. Applications, which will be treated in strictest confidence, to THE MITCHELL CONSTRUCTION CO. LTD., Wharf Works, Peterborough.

ASSISTANT CIVIL ENGINEER WANTED for site work on construction of large dry dock in Newcastle area. — Apply, stating qualifications and experience, to MARPLES, RIDGWAY AND PARTNERS, LTD., 2 Lygon Place, Victoria, S.W.1.

JUNIOR ENGINEER/AGENT REQUIRED. Permanent position for suitable applicant. — Reply, giving fullest details of previous experience, age, references, salary required and date available, to WARINGS (CONTRACTORS), LTD., Hilsea, Portsmouth.

ASSISTANT REQUIRED for estimating department in contractors' office, N.E. Midlands district, with some experience in the following: Taking-off, material schedules, ordering. — Write Box V.1645, "The Contract Journal."

WIMPEY

Applications are invited from CIVIL or MUNICIPAL ENGINEERS for appointments in their London, Cardiff and Birmingham offices. Applicants, within the age range 35-45, should have considerable general experience in municipal engineering and, in particular, the design and construction of roads and sewers and attendant works. Corporate Membership of the Institution of Civil Engineers or Municipal Engineers is essential. The appointments will involve responsibility for all matters in connection with the advance preparation of housing sites, together with the direction and control of staff engaged upon the design of such matters. Commencing salaries £1,200-£1,500 per annum. A car will be provided, and a staff pension scheme is in operation.—Applications, giving full details of experience, and quoting Ref. 933A, to:

Establishment Officer,
GEORGE WIMPEY AND CO., LTD.,
27 Hammersmith Grove, London, W.6.

PILING FOREMAN and CREW REQUIRED for timber jetty, Newhaven area.—Apply in writing to CAFFIN AND CO., LTD., Maple Cross, Rickmansworth, Herts.

REPRESENTATIVES REQUIRED by the leading company marketing tower cranes to the civil engineering industry throughout the country. Experienced and established connections in the plant and contracting field preferred. Age 25-35. Salary and commission. Full details in confidence.—Write Box V.1646, "The Contract Journal."

WANTED, fully experienced PERSON to take over Midlands area office for a company of bulk excavation contractors. Must be capable of pricing and securing contracts in area and supervising same. Write, giving full particulars of experience and salary required, to Box B.8.385, "The Contract Journal."

SITE ENGINEERS REQUIRED for large civil engineering contracts in Midlands and Southern areas. Good prospects for keen and accurate engineers. Reply, stating details of age, experience and salary required, to: M. J. GLEESON (CONTRACTORS), LTD., C.E. Department, Haredon House, London Road, North Cheam, Surrey.

QUALIFIED ENGINEER or fully experienced **AGENT,** age around 35, REQUIRED immediately for the estimating and planning department. Appointment offers good scope of promotion. Superannuation scheme in operation.—Write Contracts Director, LONGHOLMT CONSTRUCTION, LTD., 40 Piccadilly, London, W.1.

PROGRESS ENGINEER

To direct orders and deliveries for bridge construction contracts for Luton office of DORMAN LONG (BRIDGE AND ENGINEERING), LTD. Experience in structural and civil engineering works and preparation certificates of payment desirable. Salary based on experience and qualifications.—Apply, with particulars, experience, etc., to:

DORMAN LONG (BRIDGE & ENGINEERING), LTD.,
Bridge and Contracting Department,
38/40 Bute Street, Luton.

JUNIOR ENGINEER REQUIRED by company specialising in shuttering and temporary structures. Applicant should be a capable draughtsman and preferably with some site experience. Salary by arrangement. Write brief details to: GUYREX EQUIPMENT, LTD., 25 Craven Street, London, W.C.2.

VAL DE TRAVERS ASPHALTE, LTD., REQUIRES competent FOREMAN experienced in concrete paving, kerbing and minor drainage works. Permanent position offered. — Apply Roads Manager, 21 Old Bailey, E.C.4.

APPOINTMENTS VACANT

SENIOR QUANTITY SURVEYOR REQUIRED by national firm of contractors, initially for major building and civil engineering contract. Applicants should be thoroughly experienced in all aspects of quantity surveying work and able to progress final account to completion. The post will be permanent, with good salary and conditions.—Write, giving full details of experience and qualifications, and indication of salary, to Box V.1600, "The Contract Journal."

QUANTITY SURVEYORS, Senior and Junior, REQUIRED to work from head office, Cheltenham. Good conditions and prospects to men experienced in works of civil engineering construction.—Apply COSTELLOE AND KEMPLE, LTD., Alstone Lane, Cheltenham 54661.

H. V. SMITH AND CO., LTD.—AGENT-SUPERVISORS REQUIRED for road surfacing contracts in London and Home Counties. Applicants must have wide experience of laying hot asphalt and coated macadams. This position offers excellent prospects for advancement for men of ability. Age 30/35 preferred. Company car provided, and pension scheme operates. — Apply in writing to Walkden House, Melton Street, N.W.1.

SURVEYOR/ESTIMATOR

A qualified **EXECUTIVE** is **REQUIRED** by a north-east building contractor to assume full responsibility for their surveying and estimating functions. — Only top-grade men who can justify a salary of at least £1,400 a year should write to:

BOX V.1658, "THE CONTRACT JOURNAL."

QUANTITY SURVEYORS.—THE MITCHELL CONSTRUCTION CO., LTD., REQUIRE experienced QUANTITY SURVEYORS initially on large building and civil engineering contracts in England and Scotland. These appointments will be permanent, with good salary and conditions, and entry into superannuation scheme after 12 months' service.—Applications, giving details of training and experience, will be treated in strict confidence, and should be addressed to The Mitchell Construction Co., Ltd., Wharf Works, Peterborough.

ABELSON AND CO. (ENGINEERS), LTD., REQUIRE SALES REPRESENTATIVE to operate in Southern England.—Apply with details of experience, age, salary required, to 7 South Side, Clapham Common, London, S.W.4.

WANTED, ENGINEER/AGENT, experienced in the erection of mechanical plant and equipment, structural steelwork, etc., for large site in South Wales. Excellent opportunity at high remuneration. Contract will be for minimum two years, with good prospects thereafter. — Write Box V.1569, "The Contract Journal."

WANTED, experienced STEEL ERECTION FOREMEN, SUB-FOREMEN and GANGERS for large site in South Wales area. Two years' work available, with every opportunity for substantial earnings.—Write Box V.1570, "The Contract Journal."

EXPERIENCED SITE ENGINEERS

REQUIRED for contracts in southern counties. Must be fast and accurate and prepared to travel, and have minimum three years' site experience.—State age experience and salary required, to:

LAVENDER McMILLAN (CONTRACTORS), LTD.,
54 Cheam Common Road, Worcester Park, Surrey.

QUANTITY SURVEYORS and **WORKER-UP** are REQUIRED for work at Hunterston Nuclear Generating Station, Ayrshire, in settlement of civil engineering contract. Full details of the appointment will be given at interview, which will be arranged in London, Stockport, or site.—Applicants should give full details of age, experience and qualifications, if any, to the Contract Labour Department, SIMON-CARVES, LTD., Cheadle Heath, Stockport, quoting Ref. SC.2.

OUTSIDE REPRESENTATIVE WANTED by London plant company, mainly for London and Home Counties. Must be fully experienced and have existing connection. — Write Box V.1579, "The Contract Journal."

CIVIL ENGINEER REQUIRED, with considerable experience in estimating and planning, for civil engineering contractors carrying out major works. In the first instance the base would be in Scotland, and a suitable house is available if required.—Written applications, with fullest details, to Box V.1625, "The Contract Journal."

AN OLD-ESTABLISHED FIRM

Of civil engineering contractors, whose present and past staff have established an excellent name for it in the industry, are now seeking to establish a "next generation" of AGENTS, SUB-AGENTS, ENGINEERS and FOREMEN. Posts would suit people seeking permanent pensionable work with a medium-sized firm, which has always treated its staff with every consideration in return for loyalty and a "fair day's work." Our own staff have been told of this advertisement.—Please write, with full details, to:

BOX V.1659, "THE CONTRACT JOURNAL."

TWO GENERAL FOREMEN REQUIRED to supervise sub-contract labour engaged on road and sewer construction of all types for housing estates. Must be fully experienced in all practical aspects of the above work and be able to use dumpy level, set-out and measure sub-contractors' work. Areas: (1) London and Home Counties; (2) Gloucester. Subsistence or car allowance where applicable. Immediate start.—Write full details and salary required to Box V.1593, "The Contract Journal."

CHIEF CIVIL ENGINEER, aged 30-35, REQUIRED by progressive company for North-West Area office. The position, which is permanent, offers excellent scope for a man of ability and ambition. Must have had varied experience on large-scale civil engineering projects and be conversant with pre-planning contracts. A good salary is envisaged, and transport will be provided.—Write, in confidence, with full details, age, experience, and salary expected, to Box V.1650, "The Contract Journal."

EXPERIENCED AGENT/ENGINEER REQUIRED to take full responsibility for a main road and sewer contract. Must have previous experience in a similar position and be a competent instrument man; able to control plant and labour, and prepare certificates. Excellent prospects to energetic man. Good salary and car provided. — Apply JAMES BENNETT (CONTRACTORS), LTD., Helsby Street, Warrington.

APPOINTMENTS VACANT

W. AND C. FRENCH, LTD., Civil Engineering and Building Contractors, REQUIRE an ESTIMATOR, 25-35, with experience of preparing tenders on bills of quantities for various types of civil engineering work. Based on head office at Buckhurst Hill, Essex. Apply in writing, stating age, experience, and salary required, to Personnel Manager, 50 Epping New Road, Buckhurst Hill, Essex, and quoting Ref. No. 610.

ENGINEER/AGENT REQUIRED for large drainage contract in North-East. Applicant must have extensive experience of similar work in difficult ground conditions involving steel sheet piling and Wellpoint dewatering. A substantial salary will be paid to man with requisite qualifications, and position is permanent. Write, with full details, to Box V.1497, "The Contract Journal."

CONTRACTS MANAGER (Civil engineering)

MSL have been retained to advise on the appointment of a CONTRACTS MANAGER (Civil engineering) for a well established firm of civil engineering and building contractors of medium size with headquarters in London. He will be responsible to the General Manager of the civil engineering division for the planning and overall administration of all the company's major civil engineering contracts including staff matters, and for close co-operation with other functional heads and staff of the company. While most contracts are in the U.K., willingness to make short tours overseas will carry weight. Candidates, preferably 35-45, should have followed a continuous career in practical civil engineering with developing responsibility in site and contract management for contractors leading to a senior executive position on contracts up to £½m. in value. A university degree and A.M.I.C.E. will be advantageous. Commencing salary according to qualifications and experience: not less than £1,750. Contributory pension scheme. Car or car allowance.
Please send brief details in confidence, quoting reference YA.2319, to A. Shaw Maclaren. In no circumstances will a candidate's identity be disclosed to our client unless he gives permission after a confidential interview at which he will be given full details of the appointment.

MANAGEMENT SELECTION LIMITED
17, Stratton Street, London, W.1.

CIVIL ENGINEER, under 30, University Graduate or A.M.I.C.E., REQUIRED in head office of long-established firm of gunite specialists. Varied and interesting employment offered in the diagnosis of the defects in structures, the preparation of remedial schemes and tendering for same, planning and administration of contracts. Applicants must have had some years' site experience with general contractors. Permanency and good prospects for a man with ability and drive, able to work on own initiative. Pension scheme.—Reply in confidence, stating age, education, experience, and present salary, to T. WHITLEY MORAN, M.I.C.E., 5 Old Hall Street, Liverpool, 5.

W. AND C. FRENCH, LTD., urgently REQUIRE QUANTITY SURVEYORS, aged 25-35, with experience of civil engineering and building contracts, for site work within a radius of 25 miles of Buckhurst Hill, Essex.—Apply in writing, stating age, experience, and salary required, to Personnel Manager, 50 Epping New Road, Buckhurst Hill," and quoting Ref. No. 130.

CONTRACT SUPERVISOR REQUIRED for surfacing work, South Midlands. Must be capable control of labour, plant, measuring, ordering. Car provided. Permanent position.—THE DRYBROOK QUARRIES, LTD., 106 Gold Street, Wellingborough.

ROLLED ASPHALT FOREMAN REQUIRED for London work only. Permanent staff job, with top wages and conditions for first-class man. MOWLEM PAVING CO., LTD., 263 Tunnel Avenue, Greenwich, S.E.10. Tel.: GREenwich 2122.

MARTIN AND CO. (CONTRACTORS), LTD.

Have vacancy for CIVIL ENGINEER-AGENT, who is needed to give personal attention to local contracts. Increasing opportunity for man 25-35 years of age with new expanding company. Car provided.—Write:

MARTIN AND CO. (CONTRACTORS), LTD.,
1195 Bristol Road South, Northfield, Birmingham, 31.

MACADAM AND ASPHALT SUPERVISOR REQUIRED for Midlands area. 25-35 years of age. Car provided. Salary according to experience.—Write Box V.1644, "The Contract Journal."

ENGINEERS, aged 20-24 years, with some site experience, REQUIRED for setting out and measurements on contracts in the home counties by Victoria contractors. Car provided for suitable applicants, and pension scheme in operation.—Write, stating age, experience and salary required, to Box V.1574, "The Contract Journal."

DICK HAMPTON REQUIRES ASSISTANT to plant manager, to assist n maintenance and control of expanding fleet of scrapers, excavators and lorries which total 70 units. Education and qualifications useful but not essential.—DICK HAMPTON, Broadview Farm, Blacknest, Alton, Hants. Tel.: Bentley 2241.

J.C.B.—An outstanding opportunity for a SALESMAN presented itself in an advertisement appearing on page 14 in last week's "The Contract Journal."

AGENT.—AGENT REQUIRED to take charge of major civil engineering and structural works. Good salary and excellent prospects are available for the right man possessing firm leadership and outstanding ability in contract organisation.—Reply to Managing Director, DOWSETT ENGINEERING CONSTRUCTION, LTD., Durham Road, Gateshead-on-Tyne.

ENGINEER AGENT

(25-35) REQUIRED immediately by old-established expanding firm of building contractors, London region. Initially required successfully to complete R.C. frame contract. He would thereafter be considered for the position of Assistant Construction Manager involving responsibility for a number of contracts. Salary according to ability but not less than £1,200.

WRITE BOX V.1663, "THE CONTRACT JOURNAL."

GENERAL FOREMAN.—First-class GENERAL FOREMAN REQUIRED by DOWSETT ENGINEERING CONSTRUCTION, LTD., for advanced structural contracts.—Reply to Durham Road, Gateshead-on-Tyne, or telephone Low Fell 78081 for appointment.

CARPENTERS REQUIRED for contract at Bilston, Staffs. 12 hours per day, seven days per week. Production bonus and subsistence allowance. — Tel.: Bilston 42776.

APPOINTMENTS VACANT

ESTIMATOR REQUIRED for a medium-sized, well-established Birmingham building company. Salary commensurate with experience. Prospects good. Staff pension scheme. Bonus and service bonus.—Write, stating age, experience, and salary required, to Box V.1537, "The Contract Journal."

PLANT ENGINEER REQUIRED for plant depot near London. Must be apprentice trained and experienced in the field maintenance and repair of heavy civil engineering plant. Qualified to assist in the control of all departments in the depot and visit contracts in the U.K. Age not over 35. Salary in accordance with experience.—Write, with full particulars, to Box A.A.384, "The Contract Journal."

SITE ENGINEER REQUIRED in the Kent area for carrying out all engineering duties involved on various housing sites. The appointment is permanent and pensionable, with prospects for advancement. Apply, in writing, to: JAMES MILLER AND PARTNERS, LTD., Pump Lane, Hayes, Middlesex.

THOMAS VALE AND SONS, LTD.

Applications are invited for posts as SUB-AGENTS, ENGINEERS on good-class medium-sized reinforced concrete and civil engineering contracts, mainly in West Midlands and South Wales. Posts are visualised as progressive and pensionable after probationary period.—Please apply to:

General Manager,
THOMAS VALE AND SONS, LTD.,
Stourport-on-Severn, Worcs.

CLERICAL ASSISTANT REQUIRED in surveying department of national contractors' office in West Middlesex. The person appointed will be responsible to the chief surveyor for all clerical matters connected therewith. This position is permanent and pensionable, with good prospects for advancement. Apply, in writing, to: JAMES MILLER AND PARTNERS, LTD., Pump Lane, Hayes, Middlesex.

ENGINEER/ESTIMATOR for a position in Nigeria. Must have had experience of tendering for contracts oversea, and preference will be given to men who have worked in West Africa. The position is a permanent and progressive one, with unlimited opportunities for an ambitious man. First-class salary and conditions are offered. 18 months' tour with three months' paid leave in the first instance, subsequent tours reducing to 15 months. (Ref. E.G.S.)—Write Box V.1652, "The Contract Journal."

SUPERVISOR REQUIRED by Yorkshire (West Riding) company, for tarspraying and small civil engineering contracts. Previous experience in this class of work essential. Must be willing to travel. Car provided. Age limit 25-40. Salary range £750-£1,050 per annum. — Write Box V.1653, "The Contract Journal."

EXPANDING contractors' plant hire company REQUIRE MALE to operate hire department in West Middlesex area. Experience essential. Business connections an advantage. — Write Box V.1661, "The Contract Journal."

EXPERIENCED STORES CHECKER REQUIRED by civil engineers for 18-month tour in Sudan. Good salary and accommodation, followed by two months' paid leave.—Write to Box V.1660, "The Contract Journal," quoting Ref. QRS/10.

W. AND C. FRENCH, LTD., Civil Engineering and Building Contractors, REQUIRE an ESTIMATOR, 25-35, with experience of preparing tenders on bills of quantities for various types of work. Based on depot offices at Colchester, Essex.—Apply in writing, stating age, experience, and salary required, to Personnel Manager, 50 Epping New Road, Buckhurst Hill, Essex, and quoting Ref. No. 609.

CUBITTS

AGENTS AND CONTRACT SUPERVISOR
The main building department wish to make two or more appointments which offer excellent prospects to men with initiative and drive. A sound experience in the control of single major building contracts, and the ability to organise and apply modern planning and cost control methods. A wide experience in the supervision of a number of medium-sized contracts, from the point of view of cost, progress, standards and planning are essential. The positions offer immediate responsibility and planned experience for advancement to men with proved ability. The usual pension, bonus and other staff benefit schemes apply. All applications will be treated in the strictest confidence, and should be sent to:

Personnel Manager (CJ/5446),
HOLLAND & HANNEN AND CUBITTS (GREAT BRITAIN), LTD.,
1 Queen Anne's Gate, London, S.W.1.

ESTIMATORS REQUIRED for head office of major road surfacing contractors situated in Westminster. Applications from trainees also considered. Pension scheme. — Write in confidence, stating age and experience, to Box V.1598, "The Contract Journal."

CONSULTING ENGINEERS REQUIRE REINFORCED CONCRETE DETAILERS. Minimum three years' experience. Permanent position. Pension scheme. Luncheon vouchers.—Send details of experience and salary required, to F. R. BULLEN AND PARTNERS, Dacre House, Dean Farrar Street, Westminster, S.W.1.

TECHNICAL REPRESENTATIVE REQUIRED for sale of contractors' portable power tools in London area. Must have sound engineering background. Age 25-35 years.—Apply in writing to Sales Manager, ARMSTRONG-WHITWORTH COMPANY (PNEUMATIC TOOLS), LTD., 34 Victoria Street, S.W.1.

RUSH AND TOMPKINS, LTD., REQUIRE GENERAL FOREMEN, QUANTITY SURVEYORS, TIMEKEEPERS for building contracts in Abergavenny and Newport areas.—Please write full details to RUSH AND TOMPKINS, LTD., 109 Station Road, Sidcup, Kent.

CLERKS OF WORKS and INSPECTORS OF WORKS, with high-class experience in building and civil engineering work, respectively, WANTED by consulting engineers for service at Tema Harbour, Ghana. 12-month tours: free accommodation; generous leave; good salaries.—Apply in writing to SIR WILLIAM HALCROW AND PARTNERS, Alliance House, Caxton Street, London, S.W.1.

FOREMAN for Nigeria REQUIRED for civil engineering work in Nigeria, for an 18-month tour with an established concern. Preferably single, tradesman, under 40, of good health, character and intelligence. Wide experience required and able to work on own initiative, handling small contracts from main office if required. References required later. Applications, in confidence, giving details of experience, positions held, age, health, domestic responsibilities, etc., to Box V.1669, "The Contract Journal."

APPOINTMENTS VACANT

A WORKS MANAGER is REQUIRED for a large modern sand- and gravel-processing plant in the north of England, and to control extensive operations involving extraction, stockpiling and raw material handling of an associated activity. Practical experience in management of large quarry plants and their operation is essential, with proven ability in production engineering, plant maintenance and quality control. Permanent position. Pension scheme. Car provided. Replies, treated in strict confidence, to state age, qualifications, engineering training and career in date order, and to be addressed to Box V.1568, "The Contract Journal."

ENGLISH group of companies with associated company in Dublin, having considerable facilities there for sales building and civil engineering plant and equipment, farm machinery, assembling, storage, field service, heavy haulage and maintenance, would be glad to hear from manufacturers interested in agencies being represented there.—Write Box V.1668, "The Contract Journal."

SOUTH WALES.—SITE MANAGER REQUIRED to control office organisation, including wages, quantities, claims and general accounting of commercial side, for large long-term contract. Salary, according to experience and qualifications, £950/£1,200 p.a. Write Box V.1667, "The Contract Journal."

SITE AGENTS and GENERAL FOREMEN

SIR LINDSAY PARKINSON AND CO., LTD., invite applications for the above positions.—Applicants, who must be fully experienced in carrying out major building contracts of all types should forward all details to:

Building Director,
SIR LINDSAY PARKINSON AND CO., LTD.,
6 Lambeth Road, London, S.E.1.

ESTIMATOR REQUIRED by firm of building and civil engineering contractors, for work in their Rotherham office. Varied and interesting work in expanding office.—Write, giving full details of previous experience, age, etc., to TARSLAG, LTD., Upper Wortley Road, Rotherham.

A VACANCY exists with well-known building and civil engineering contractors in Birmingham for a SENIOR SURVEYOR with sound knowledge and experience of interim valuations and final accounts. A salary range of £1,250/£1,500 will be offered to the applicant of proven ability, possessing initiative and drive. Pension and bonus schemes in operation. Write full particulars to Box V.1670, "The Contract Journal."

YOUNG ASSISTANT ENGINEER REQUIRED by expanding firm of civil engineering contractors carrying out drainage, road and bridge contracts mainly in the Greater London area.—Applications, giving full details of age, education, experience, etc., and salary required, to J. E. BILLINGS AND CO., LTD., 54 Beddington Lane, Croydon, Surrey.

RESIDENT ENGINEER.—Applications are invited for the appointment of a Resident Engineer with wide experience in the construction of civil engineering works.—Write, with details of age, experience, and salary required, to Box V.1674, "The Contract Journal."

SHEPHARD, HILL AND CO., LTD.

REQUIRE:

SENIOR AGENTS
SENIOR ESTIMATORS
GENERAL FOREMEN
JUNIOR ENGINEERS
SITE CLERKS

Permanent positions with excellent prospects for applicants of proved experience and, where appropriate, qualified.—Written applications, with full details, in strictest confidence, marked "R.E.C.," to:

SHEPHARD, HILL AND CO., LTD.,
25 Central Chambers, W.5.

PAINTING INSPECTOR REQUIRED for about one year to supervise painting of large steel bridge. Experience and ability to work at heights essential. Knowledge of flame cleaning an advantage.—Please telephone RUNcorn 3832, or write Box V.1675, "The Contract Journal."

CLERK OF WORKS.—Vacancies exist for capable CLERKS OF WORKS with general experience in the construction of civil engineering works. Particular experience in the fields of: (a) Shaft sinking and tunnelling; (b) Reinforced Concrete and Steelwork Structures; (c) Earthworks, roads and drainage would be an advantage although not essential. The prospects of permanent employment are excellent.—Write for interview, with details of age, experience, and salary required, to Box V.1673, "The Contract Journal."

CIVIL ENGINEERS REQUIRED for work in connection with large-diameter trunk mains, roads and sewers.—Please state experience, and salary required, to Box V.1664, "The Contract Journal."

STRUCTURAL insulating engineers, North Midlands, have vacancy for good SUPERVISOR, 30-40 years of age, capable of handling roof insulation, setting-out of suspended ceiling contracts and fixing of acoustic board. Experience necessary. Salary, bonus, pension scheme and good prospects.—State age, experience and salary to Box V.1682, "The Contract Journal."

CONTRACTORS' PLANT

GEORGE COHEN, SONS AND CO., LTD., REQUIRE for their Belfast branch an experienced REPRESENTATIVE to take charge of their contractors' plant department, which includes hire and sales. Good prospects, pension scheme after probationary period.—Applications, in writing, with fullest details, including age, experience and salary required, to:

Personnel Manager,
GEORGE COHEN, SONS AND CO., LTD.,
600 Wood Lane, London, W.12.

QUANTITY SURVEYOR/ESTIMATOR REQUIRED for well-established North London building contractors; good prospects.—Write, stating age, experience and salary required, Box V.1687, "The Contract Journal."

GENERAL and SECTION FOREMEN.—Top-grade Supervisors experienced in construction of new dual carriageways and reinforced concrete bridges REQUIRED by national contractors for large works in Scotland in first instance, with permanencies for the right men. Replies, giving details of experience, trade, etc., and salary required, will be treated in confidence. Own staff already notified.—Write Box V.1683, "The Contract Journal."

APPOINTMENTS VACANT

SCOTTISH LAND DEVELOPMENT CORPORATION. Glasgow, Newcastle, Nottingham, London, distributors of earthmoving equipment.—In view of the expansion of the company's activities, two senior appointments are open to men with proved experience in the civil engineering or allied industries. These appointments offer a unique opportunity to men of integrity wishing to make a career in the earthmoving industry in the north-east of England:—
PLANT MANAGER.—Responsible for the operation and maintenance of the company-owned earthmoving equipment and developing existing plant hire business in the north-eastern area.
DEPOT MANAGER.—Responsible for the co-ordination of the functions of the existing depot organisation in north-east England and for the general promotion of the company's interests.
Both these posts are permanent and pensionable, and those appointed will be responsible to the regional manager. — Apply, in confidence, to the Managing Director, SCOTTISH LAND DEVELOPMENT CORPORATION, 72 Dykehead Street, Queenslie, Glasgow, E.3.

SENIOR GENERAL FOREMAN REQUIRED by RICHARD COSTAIN, LTD. Candidates, who should preferably have a carpenter background, must have had wide experience on major civil engineering contracts. Good salary and full staff amenities. Please write to Personnel Officer, 111 Westminster Bridge Road, London, S.E.1.

SENIOR QUANTITY SURVEYOR. — An additional appointment is available in the surveyor's department of RICHARD COSTAIN, LTD. Applications are invited from men preferably aged 30-38, with at least five years' experience with contractors, including site measurement and the preparation of interim and final accounts. The person appointed must accept the necessity of working on site when circumstances demand it. The company's expansion continues and there are excellent prospects of a progressive career.—Please write to Personnel Officer, 111 Westminster Bridge Road, London, S.E.1.

FITZPATRICK AND SON (CONTRACTORS), LTD., REQUIRE AGENTS and SUB-AGENTS experienced in motorway, airfield and road reconstruction. Must be prepared to travel. — Apply in writing, giving details of previous experience, etc., last three employers, and duration of employment with each, to 455 Old Ford Road, Bow, E.3.

A SITE MANAGER is REQUIRED by a rapidly growing building and civil engineering company to take charge of housing and general contracts in the Home Counties. The directors of the company wish to appoint a young man of high potential, who will develop with the company: his immediate task will be to plan, direct and control work to the value of £500,000 per annum. Candidates should be between 27 and 40 years of age, and preference will be given to those who have a recognised qualification in the industry. A starting salary of over £1,500 per annum is envisaged, and future rewards will be commensurate with increasing responsibility. A car will be provided, and the successful applicant will be eligible for the company's sickness and pension schemes.—Applications in writing, giving full details of experience, qualifications and positions held, should be sent to Urwick, Orr and Partners, Ltd., who have been asked to advise on this appointment, at Urwick House, 14 Hobart Place, London, S.W.1, quoting Ref. HRB/1394 on the envelope.

For Advertisements received too late for classification see page 205

QUANTITY SURVEYORS (Senior and Assistant) REQUIRED by British civil engineering contractor for large public works contract in West Africa. Salary range £1,500-£2,300 per annum, according to experience. — Write brief details of experience to Box C.I.287, LPE, Romano House, 399/401 Strand, London, W.C.2.

INVOICE CLERK (Male) urgently REQUIRED by joinery manufacturers. Good wages and conditions. Apply 77 South Lambeth Road, S.W.8. Reliance 3340.

PERSONAL TECHNICAL ASSISTANT to director REQUIRED by building and civil engineering company near Leigh, Lancs., to act in office as complete right-hand and on own initiative during director's frequent absence. Applicant to be of marked technical ability and tact, aged 30/40. Prospects limited only to applicant's ability.—Write Box V.1690, "The Contract Journal."

PLANNING ASSISTANT. — RICHARD COSTAIN, LTD., have a vacancy for a Work Planning Assistant whose duties will include the preparation of overall plans for building contracts and the breakdown of these plans into short-period work loads. Candidates, aged 24-30, should possess H.N.C. in building and have sound background knowledge of quantities, costing, and the use of modern plant on site. Training and experience in work study and planning techniques desirable.—Please write to Personnel Officer, 111 Westminster Bridge Road, London, S.E.1.

JUNIOR SITE ENGINEERS REQUIRED to take charge of small piling and foundation contracts. The posts are based on Croydon, but considerable travelling is involved, and ability to drive would be useful. Starting salary up to £650 per annum. The company is expanding rapidly, and there are very good prospects for advancement. Applications are invited from men aged 22-25 with experience of instruments used in setting-out, and who possess O.N.C. as minimum qualification. — Please write to Personnel Officer, RICHARD COSTAIN, LTD., 111 Westminster Bridge Road, London, S.E.1.

CONSULTING ENGINEERS REQUIRE the following staff for their Midlands office: ENGINEERING ASSISTANTS with two or three years' experience of sewerage, water supply and reinforced concrete design; salary £800 p.a. JUNIOR DRAUGHTSMEN/DESIGNERS with some experience of reinforced concrete work or sewerage; salary in accordance with age and experience. Contributory pension scheme. Good prospects of promotion and experience of a wide variety of work, including reinforced concrete structures.—Apply in writing, with full particulars, to JOHN DOSSOR AND ASSOCIATES, Consulting Engineers, 54 Broad Street, Worcester.

CIVIL ENGINEERS (Senior and Assistant) REQUIRED by civil engineering contractor for site duties on important harbour and road construction projects in West Africa.—Write Box 294 LPE, Romano House, 399/401 Strand, London, W.C.2.

CONTRACTOR'S Site Staff REQUIRED for dam construction contracts in Central and North Wales, including: GENERAL SUPERINTENDENTS and GENERAL FOREMEN with some years' experience in similar positions on medium/heavy civil engineering contracts; GENERAL FOREMAN with major industrial building experience, for power station site; FOREMAN JOINER with shuttering experience on heavy concreting.—Men up to 45 years of age should write, stating age, experience, and salary required, to the Personnel Officer, THE CEMENTATION CO., LTD., 20 Albert Embankment, London, S.E.11.

WORK REQUIRED

GENERAL SITE CLEARANCE with specialised equipment. Awkward trees and roots removed. Explosives experts available. Also Seeding, Turfing, and all other branches of landscape gardening undertaken by KINGSWAY NURSERIES, LTD., of Ewell Surrey. Telephone: Ewell 1726.

EXCAVATION SUB-CONTRACTS. Technical staff available to analyse, programme and price complex projects. Particular attention given to finish and compaction. D9, D8, TD18 and TD14 Scrapers, Excavators, Loading Shovels and Lorries available with competent and imaginative supervision for execution of work.—DICK HAMPTON, Broadview Farm, Blacknest, Alton, Hants. Tel.: Bentley 2241.

SPECIALISED EXPLOSIVES SERVICES.—U.K. and OVERSEAS MOBILE UNITS coverage on ex-service strong points, sea walls and dangerous structures, etc.—124 Old Shoreham Road, Southwick, Sussex. Tel.: Southwick 3791 or Shoreham 4193.

FOR HIRE IN MIDLANDS, new Blaw Knox PF90 PAVING MACHINES, complete with experienced operators (and gang) if required. Sub-contract work or price per ton for material laid (Macadam, Asphalt, Wetmix, Leanmix Concrete, etc.).—For full details, apply: CAMMIDGE ROAD CONSTRUCTIONS, LTD., 14/26 Henrietta Street, Coventry. Tel.: Coventry 88473.

BULK EARTHMOVING, direct contract or sub-contract. Also BULLDOZERS and SCRAPERS for HIRE.—FRANK R. WALPOLE, LTD., 126 Wing Road, Leighton Buzzard, Beds. Leighton Buzzard 3351.

WANTED, HIRE or CONTRACT WORK for modern fleet of DW21s, D9s and D8s. Apply: BRODERICK AND RYAN, LTD., 421 Nottingham Road, Ilkeston, Derby. Tel.: Ilkeston 4381/2.

ALLEN OXFORD GRADERS for HIRE. GRASSPHALTE, LTD., Hampton Hill, Middlesex. Telephone: Molesey 4343.

BULK EXCAVATIONS, any quantity quoted for. Own plant and lorries.
COFF AND SON (EXCAVATIONS), LTD., Buckhurst Hill, Cheapside, Ascot, Berks. Ascot 1026/7/8.

WANTED, EXCAVATION, SITE CLEARANCE and DEMOLITION WORK.
R. BARKER (PECKHAM), LTD., New Cross 3337.

BULK EXCAVATIONS and SITE WORKS undertaken, DIRECT or on SUB-CONTRACT basis. Quotations given for large or small contracts anywhere.—S. AND L. BULL BROS., LTD., 126A High Street, Winchester. Winchester 2264.

ERECTION and DISMANTLING. Structural Steelwork and all types of Prefabricated Components. Speedy and efficient service.—ERECTORS, 80 Bulwell Crescent, Cheshunt, Herts. Waltham Cross 22564.

EARTHMOVING, EXCAVATION, CONTRACT or HIRE. Bulldozers, Scrapers, Traxcavators, Trenchers, etc.—'Phone: Chiswick 8511/2, Maidstone 7284/5/6, TRACTORS HIRE (CHISWICK), LTD., 300 Chiswick High Road, W.4.

MOTOR BOAT OWNERS REQUIRE CONSTRUCTIONAL WORK, ATTENDANCE, PERSONNEL, GOODS, TOWAGE, etc. Craft and labour supplied.—Apply: THOMAS BROS., 62 Sussex Road, East Ham, London, E.6. Telephone: GRA. 6697/3151.

SITE CLEARANCE, BULK EXCAVATION. JANES AND CO., LTD., Trading Estate, Slough. Telephone: Slough 20361—Ext. 4.

SAM BOOTH, LTD., Perrymount Chambers, Haywards Heath, Sussex. Tel.: Haywards Heath 1126 and 1258. SUB-CONTRACT or HIRE: D9s, with Bulldozer and Caterpillar 463 Scrapers.

CRANE HIRE.—May we QUOTE? Motor Scrapers, Traxcavators, Excavators, Bulldozers, Cranes supplied on HIRE or CONTRACT.—GRANGE PLANT, LTD., Honiton, Devon. Tel.: Broadhembury 330-355.

EARTHMOVING, LEVELLING, LAND DRAINAGE, RECLAMATION, etc. Consult the Surface Specialists. — SURFACE MAINTENANCE SERVICES, LTD., 124 Old Christchurch Road, Bournemouth. Tel. 24673. Branches throughout the country.

IF TREES, ROOTS or **UNDERGROWTH** feature in your contract, we would be pleased to quote for their ECONOMICAL DISPOSAL.
BAGSHOT SAWMILLS, LTD., 32 London Road, Camberley, Surrey. Telephone 14.

FOR HIRE. One Drott and Six TIPPER LORRIES. SITE CLEARANCE. Direct or sub-contract. J. W. DOYE AND CO., Demolition Contractors, 188 Plumstead High Street, S.E.18. Woolwich 6318.

FOR SUB-CONTRACT or **HIRE.** D8, D7, D4 TRACTORS with Scrapers: TRAXCAVATORS, LA TROBE, Charing, Kent. Telephone 283.

SOILING, SEEDING and TURFING. Site Clearance, Excavation and Levelling Work undertaken in any part of the U.K. at competitive prices.—GILLIAM, Purley, Surrey. UPlands 9222/6

BULK EARTHMOVING, OVERBURDEN STRIPPING, EXCAVATIONS for roads, airfields, etc., with large fleet of Caterpillar D8 and D7 Tractors. Keenest prices for work anywhere in the country.—CONTRACTORS' PLANT HIRING CO., LTD., Barkby Road, Leicester. Tel.: Leicester 66631 (4 lines). NORTHERN REPRESENTATIVE: 91 Shaw Road South, Shaw Heath, Stockport. Telephone: STOckport 3082.

EARTHMOVING in south-west carried out by modern fleet of machines—hire or contract. Traxcavators, motor scrapers, bulldozers, excavators and mobile cranes.—GRANGE PLANT, LTD., Honiton, Devon. Telephone: Broadhembury 330-355.

UPROOTING.—TREES, STUMPS, HEDGES, etc. We have the most experience and all modern equipment.—T. GRAVESON, LTD., Warton, Carnforth, Lancs. Tel.: Carnforth 381 and 382.

CONTROLLED EXPLOSIVES, LTD., specialise in the fragmentation of mass and reinforced concrete inside or outside buildings. Demolition of bridges and chimneys, mass rock, trenching, sewage beds, engine beds, etc., and deep drilling for quarries. Particulars from 11 Church Street, Oldbury, Birmingham. Telephone: BROadwell 3117.

SITE CLEARANCE, EXCAVATION, MOBILE HAULAGE, LTD., 230 Tottenham Court Rd., London, W.1. Lan. 7833-5.

IF GRADING, SEEDING, TURFING and **PLANTING** form part of your CONTRACT, we will be pleased to quote you.—HOLDRUP, 139 Bells Hill, Barnet. Telephone 9111.

PATENTS

THE Proprietors of British Patent No. 767,960, "Improvements in or Relating to Concrete Vibrators," desire to conducted negotiations for the GRANT of a MANUFACTURING LICENCE in respect to or for the DISPOSAL of the above British PATENT. Anyone interested should apply to: SYDNEY E. M'CAW AND CO., Chartered Patent Agents, 17 St. Ann's Square, Manchester, 2.

APPOINTMENTS WANTED

EXPERIENCED SALES ENGINEER (50), earthmoving equipment, craneage, etc., etc. Wide and useful contacts throughout U.K. DESIROUS JOINING progressive company in, possibly, executive capacity, and where services may be gainfully employed. Available to travel, including overseas, and take up residence as required. Used to tough assignments. Good sales record, references, etc. Minimum basic salary, £1,500.
Write Box W.1629, "The Contract Journal."

SENIOR CIVIL ENGINEERING AGENT REQUIRES CHANGE. Major trunk road experience. Free travel anywhere.
Write Box W.1672, "The Contract Journal."

DIVING

DIVERS IMMEDIATELY AVAILABLE. Welding, cutting, construction, etc. Any part of world. UNDER WATER WELDERS AND REPAIRERS, LTD., Cardiff. Tel. 29631. (After hours: Penarth 58131.)

DIVING WORK REQUIRED, all classes, competent divers. — A. J. PARSLOE, Diving Contractor, 14 Haig Avenue, Brighton, 6. Telephone 61228.

COMPLETE CONTRACTS UNDERTAKEN, including the following: Design, Survey, Craft available. Pile Driving, Compressors, Cement and Grouting Machinery, Underwater Cutting, Welding, etc., etc. Divers and Plant hired if preferred. Rates from £7 7s. per day. Immediate and efficient teams available anywhere in the world. Qualified marine surveyor on staff.—For Diving Contracts, consult: THE MARTIN WELDING AND CUTTING CO., LTD., Dartford, Kent. Tel.: (day) Dartford 24139; (night) Farningham 2452.

HORTICULTURAL

TOP SOIL. — 200,000 cubic yards available, delivered in large and small quantities. Soil supplied ex site in approved cases.—LATHAM AND CO. (CONTRACTORS), LTD., Westward House, Guildford Rd., Lightwater, Surrey. Bagshot 2037 and 2400.

A KEEN QUOTATION for your TURFING, SEEDING and HEDGING CONTRACTS: London and Home Counties.—R. J. ENSTONE & SON, LTD., Head Office: 34 Alma Rd., St. Albans. (St. Albans 55528.)

TURFING — SEEDING — HEDGING. Quotations for all branches of landscape work, anywhere in the U.K. C.E. contracts a speciality. WEBSTER BROS., Horsforth, Leeds. Horsforth 2364.

MASSEY-FERGUSON 65 TRACTORS for HIRE, also comprehensive range of ATTACHMENTS, including Tipping Trailers, Loaders, Rotavators, and all Land Cultivation Implements, Turf-cutting Machines, etc. C.E. contractors catered for.—RINGWAY CONTRACTORS, LTD., Horsforth, near Leeds. Telephone: Horsforth 4805.

QUICKS, EXTRA QUALITY, fibrous rooted: 12-18in., 16/-, 145/-; 18-24in., 24/-, 200/-; 24-30in., 28/-, 270/-; extra heavy: 30-40in., 35/-, 330/-; special transplanted and cut back: 18-24in., 35/-, 330/-; 24-36in., 40/-, 380/-. OVAL LEAF PRIVET: 12-18in., 22/-, 215/-; 18-24in., 28/-, 275/-; special transplanted bushy: 18-24in., 35/-, 340/-; 24-30in., 50/-, 470/-; 30-36in., 70/-, 670/-. BEECH: 10-16in., 20/- per 100; transplanted 3-year: 18-24in., 50/-, 480/-; 30-36in., 75/-, 700/-. LONICERA NITIDA: transplanted: 18-24in., 40/-, 375/-; 24-30in., 50/-, 450/-. Bushy transplanted HORNBEAM: 18-24in., 70/- 100; 30-36in., 110/- 100. All above prices at per 100 and 1,000. CUPRESSUS LAWSONIANA: 12-24in., 130/- per 100. LAURELS: transplanted: 12-18in., 18/- per doz.; 18-24in., 24/- per doz. All carriage paid for cash with order.—GARDEN BEAUTY PRODUCTS, Wickford, Essex. Telephone 2152.

ROTARY CULTIVATORS available for HIRE or CONTRACT WORK. Grading, Levelling, Earthmoving undertaken.—JAMES COOPER, LTD., 28 Kensington Church Street, London, W.8. Western 3412.

THORN QUICKS—2-2½ft., 170/- 1,000; 2½-3ft., transplanted, 225/- 1,000. — ALFRED J. COX (GARDENS), LTD., Stoke Poges, Slough, Bucks.

TURVES.—Machine-cut, 3ft. x 1ft., close mown, weed-treated, 60/- per 100. Keen trade rates. We would be pleased to quote for your levelling and laying. — E. R. RANCE, LTD., 14 Sheepcot Lane, Watford. Telephone: Garston 2725.

INVENTIONS

INDUSTRIAL ENGINEERS OF REPUTE invite, in strict confidence, DETAILS of INVENTIONS with object of manufacturing and world distribution.
Write Box K.L.517, "The Contract Journal."

BUSINESSES—SALE OR WANTED

WANTED TO PURCHASE by London plant company, SIMILAR ORGANISATION in Midlands or Home Counties.—Brief details in first instance to Box X.1530, "The Contract Journal."

FOR SALE, GRAVEL AND SAND COMPANY as GOING CONCERN, complete with excavators, washing and grading plants and transport. No competition in area. One hundred acres of reserves at 12ft. to 14ft. depth. Price £96,000. No agents. Principals only reply to Box X.1685, "The Contract Journal."

PARTNERSHIP

PARTNERSHIP or PURCHASE of a small CONCRETE FACTORY for the production of prefabricated concrete parts and bigger concrete rings; and one EXPERT or TECHNICIAN REQUIRED for this concrete factory. — Offers to Box X.1631, "The Contract Journal."

PROFESSIONAL SERVICES

TECHNICAL ESTIMATING SERVICES introduced by R. J. CARR. The only service of its kind in the country.—Westleigh House, 42 Coombe Road, New Malden, Surrey. Tel.: Malden 8640.

CIVIL ENGINEERING CLAIMS.—Director/Consultant Engineer, with long and varied experience in high-level negotiation of contractors' claims, OFFERS SERVICES on a fee/commission basis.
Write Box X.1058, "The Contract Journal."

CLAIMS CONSULTANT provides a CONFIDENTIAL CLAIMS SERVICE covering every type of civil engineering work. Selection of possible claims, formulation, negotiation, etc., in accordance with contractor's individual requirements.
Write Box V.1516, "The Contract Journal."

LEOPOLD FARMER & SONS
Industrial Property Specialists
AUCTION SALES & VALUATIONS
Surveyors, Valuers & Auctioneers
46 GRESHAM STREET E.C.2

AGENCIES

STOCKIST/AGENTS WANTED to sell the Tirfor Lifting and Pulling Machines. Excellent terms. Write Manager, TIRFOR, LTD., 33 St. Georges Drive, London, S.W.1.

ENGINEERING SALESMEN visiting public works contractors, building, borough, civil and plant engineers, farmers, etc., offered attractive and cheap Diesel engines, pumping sets, etc. Already well known in this country. On a commission basis. Write Box V.1632, "The Contract Journal."

SALES BY AUCTION

WELTON.
Rugby 8 miles. On A.5.
IMPORTANT SURPLUS SALE OF
TIMBER AND VEHICLES

1in. to 2½in. Beech; 1in. Obeche; ¾in. Chestnut; 1in. Oak; 1in. to 3in. Ash; 1in. to 1¼in. Sycamore; Oak Posts; Oak Field Gates; Arris Rails; Boards; Posts; Wire; Oak and Softwood Planks; Old Oak Beams; Quarterings; Wooden Sheds with Floors, 30ft. x 15ft. and 14ft. x 10ft.; Sectional Deep Litter House, 50ft. x 18ft.; Four Fordson Major Diesel Tractors; Four Ferguson Ditto; Automatic Post Masters, in all about 300 lots.

HOWKINS AND SONS have received instructions from Messrs. William Ivens and Sons (Timber Merchants), Ltd., who have acquired additional land adjoining their new mill, and to whom the above items are now surplus to requirements, to sell the above by AUCTION on FRIDAY, 29th APRIL, 1960, on the PREMISES at 10.30 a.m.

Catalogues, in course of preparaton, obtainable from Auctioneers' Offices.
View day prior to Sale.
Auctioneers' Offices: 12 Albert Street, Rugby. Tel. 2204 (3 lines). Also at Daventry and Northampton.

SHIRLAW, ALLAN AND CO.,
AUCTIONEERS, HAMILTON.
SALE OF BUILDERS' AND PUBLIC WORKS CONTRACTORS' PLANT AND MACHINERY, EXCAVATORS, TRACTORS, AIR COMPRESSORS, DUMPERS, CONCRETE MIXERS, HOISTS, MOTOR VEHICLES, SCAFFOLDING TIMBER, HUTS, CANTEEN TABLES AND CHAIRS, STEEL STOCK BINS, ETC.
— including —

Blaw Knox BK50 and Smith Super 10 Diesel Excavators, each with Forward Shovel, Dragline and Backacter Equipments; International TD14 Diesel Crawler Tractor, with Hydraulic Angledozer and P74 Winch; Nuffield Diesel Tractor, on pneumatics; Bristol Petrol driven Crawler Tractor; Two Broomwade 110 c.f.m. Portable Diesel Air Compressors; Two Holman and Worthington 200 c.f.m. Lorry-mounted Diesel Air Compressors; Gardner-Denver 5in. x 1⅞in. x 4in. Diesel driven Stationary Air Compressor, for 1,000lb. w.p.; Two Thwaites 15cwt. Diesel Dumpers; Five Winget and Parker 5/3½ Portable Petrol driven Concrete Mixers; Two Rex and Parker 7/5 Portable Diesel and Petrol driven Concrete Mixers; Parker 10/7 Portable Diesel driven Concrete Mixer; Parker 5½ft. Diesel driven Roller Pan Mill; Two Wickham 7cwt. Petrol driven Mobile Hoists; Maudslay 10-ton Diesel Hydraulic End-tipping Truck; Five Bedford 5-ton and 3-ton Diesel and Petrol Hydraulic End-tipping Trucks; Leyland 32-seater Diesel Bus; Two Morris Type J Personnel Carriers; Jaguar Mark VII Saloon Car; Austin Cambridge Saloon Car (new 1957); Bedford Truck Spares; BK50 and Smith Super 10 Excavator Spares; International TD14 and TD9 Tractor Spares; New Pegson-Telsmith Triple Deck Vibrating Screen, 10ft. x 3ft., with 48 new Screen Plates; 50-ton Sand Storage Hopper, with Steel Frame and Wooden Cladding; ¾yd. Aluminium Concrete Skip; Benjo Power Rammer; Sykes 2in. Petrol driven Diaphragm Pumping Set; Pegson 3in. Portable Petrol driven Centrifugal Pump; Holman 2in. Pneumatic Sludge Pump; Three Globe Pneumatic Rotary Drills; 17 Concrete Breakers, Rock Drills and Clay Spades—for Air; Holman Pneumatic Rammer; Concrete Breaker and Rock Drill Steels; 500ft. I.R. Air Hose; Metrovick Paradyne 300-Amp Petrol driven Arc Welding Motor Generator Set (almost new); 24in. Petrol driven Vibrating Roller; Petrol driven Flexible Shaft Grinder; Clipper Motorised Masonry Saw; 15in. Motorised Band Saw; Nationale Mecanique Electrically driven Universal Woodworker; Hand Mortising Machine; Grimston D.H. Electric Bench Grinder; Weaver Portable Electrically driven High Pressure Steam Cleaner; 35-Volt Petrol/Electric Generating Set; Wolf Type SR54A Motorised Heavy Duty Valve Refacer (in new condition); H.F. Robot Tyre Changer; 12 Steel Stock Bins; large number High Tensile and Bright Steel Whitworth and B.S.F. Bolts and Nuts; 10 tons Steel "H" Beams and Angles; 8 tons Reinforcing Steel; C.I. Water Pipes; 1,000 cu. ft. W.P. Scaffolding Battens; 70 Wooden Trestles; 12 Wooden Ladders; 300ft. Alloy Scaffold Tubing and 500 Couplers; large quantity Moulding Timber; 140 Roadway Sleepers; 100 cu. ft. Teak Decking; 30 Navvy Barrows; Navvy Tools; 10 Sectional Wooden Huts, from 12ft. x 8ft. to 7ft. x 6ft.; Jacks; Chain Lifting Blocks; Clamps and Cramps; Vices; Steel Pinches; Bolt Clippers; Two Smoke Drain Testers; 40 Paving Slab Moulds, 3ft. x 2ft.; Two 200-gallon Diesel Fuel Tanks; Two Gledhill-Brook Time Recorders; 300 Steel Tubular Stacking Chairs; 30 Steel Tubular Stacking Tables, with Formica Tops; 32 Card Tables; Firewood; Scrap Iron; Concrete Paving Slabs, Lintels, Blocks and Steps; 7,000 Ballachulish Slates, etc.

At CONTRACTORS' YARD, 7 PRESTON CRESCENT, INVERKEITHING, FIFE, on THURSDAY, 28th APRIL, 1960, at 10.30 a.m. prompt.

SHIRLAW, ALLAN AND CO.,
AUCTIONEERS, HAMILTON,
have received instructions from Messrs. Colin Morris and Son, to sell, by AUCTION, as above.
On view day prior to Sale.
HAMILTON, APRIL, 1960.

SALES BY AUCTION

SPONSORED BY THE SCOTTISH PLANT OWNERS ASSOCIATION.
HIGHLY IMPORTANT TWO DAYS' SALE
— of —
MODERN CIVIL ENGINEERING AND BUILDING CONTRACTORS' PLANT,
— including —

Four Caterpillar DW21 and Tournapull 9yd. Motor Scrapers; Five Caterpillar D9, D8, D7 and D4 Tractors; Vickers VR180 Tractor; Eight International TD18, TD14, TD9 and BTD6 Tractors; Four Fiat 55L Tractors; Fordson County Crawler Tractor; Eimco 105 Overloading Shovel; Six International BTD6 and 9K3 Drott Skid Shovels (new 1958 and 1957); Four Matbro, Chaseside, Weatherill and Skyhi Hydraulic Loading Shovels; Nine Le Tourneau, Ruston and Blaw Knox Scrapers, from 13yd. to 4yd.; Three Manitowoc and Lima 2½yd. Excavators; Four Priestman Tiger and Wolf Excavators; Two Michigan C16 and NCH105 Excavators; Six 19RB, 17RB, 14RB and 10RB Excavators; Smith Super 10 Excavator; Three Whitlock Dinkum Diggers (new 1959 and 1958); Three Pumpcret and Blaw Knox 6in. and 4in. Concrete Pumps; 19 C.P.T., Broomwade, Atlas, Arpic, Ingersoll-Rand and Wilson Portable Air Compressors, from 315 c.f.m. to 105 c.f.m.; C.P.T. 550 c.f.m Electrically driven Stationary Air Compressor; Galion 101 Grader; Two 3-tine Rooters; Sheepsfoot Roller; Six Butters and Anderson-Grice 7-, 5- and 3-ton Electric and Steam Derrick Cranes; Two Smith 3-ton Steam Loco. Cranes; Smith 5-ton and Neals 2-ton Diesel Mobile Cranes; Tate 5-ton Electric Workshop Crane; Ransomes, Sims and Jefferies 30cwt Runabout Crane; Two Neals 15cwt. Petrol-driven Mobile Cranes; Four Wallis-Steevens, Aveling-Barford and Greens Diesel Road Rollers, from 8/9-ton to 30cwt.; Four Simplex and Ruston-Hornsby Diesel Locos.; B.E.V. Electric Loco.; Four Eimco 21 and Atlas LM30 Rocker Shovels; Two Joy-Sullivan SNA211 Scraper Loaders; Two Winget-Koehring sizes 56S and 28T Electrically driven Concrete Mixers; 29 Winget, Benford, Parker, Stothert and Pitt, Millars and Blaw Knox Concrete Mixers, from 21/14 to 5/3½ models; Four Drayton Mobile Swing Weighbatchers; Two Blaw Knox Junior 20yd. Weighbatchers; Winget Cement Elevator; C.P.O.A.C. Concrete Placer; Boulder 3½ cu. ft. Pneumatic Grouter; Bogie Grout Pump; A.E.C. Dumptruk; 31 Diesel- and Petrol-driven Dumpers, from 4/6yd. to 9 cu. ft.; Five Dodge 5/6-ton Diesel Tipping Trucks (new 1956 and 1955); Austin 10cwt. Service Van (new 1956); Fordson 4 x 4 Mobile Workshop; Atkinson Diesel Tractor Unit, with 23ft. Dropside Trailer (new 1955); Seddon Diesel Platform Lorry (new 1956); Leyland Comet and E.R.F. Diesel Platform Lorries; A.E.C. Mammoth Major Eight-wheel Diesel Platform Lorry; Two Wild Builders' Elevators; Seven Wickham and A.C.E. Diesel- and Petrol-driven Mast Hoists; Drayton Mono-rail Equipment; Two Conveyancer 40cwt. Fork Lift Trucks; Jet Conveyor; 31 Diesel- and Petrol-driven Centrifugal and Diaphragm Pumps, from 6in. to 2in.; Nine Mono D10 and D6 Electrically driven Pumps; 61 Atlas, Ingersoll-Rand C.P.T. and Broomwade Hand Rock Drills, Concrete Breakers and Picks; 600 A.D. Cormorant Tungsten Carbide-tipped Steel Drills; Large number New and Reconditioned Caterpillar, International and Fiat Tractor Spares; Excavator, Scraper and Engine Spares; Power Control Units; Excavator Equipments; New and Used Earthmover Tyres; Diesel and Petrol Engines; 62.5-kVA 440/3/50 Diesel-Electric Generating Set; 3,400yd. 19/.083 P.I 3½-core Aluminium Sheathed Cable; 1,500yd. 19/.083 4-core P.I.L.C. S.W.A. Cable; Large Quantity Aerial and Lighting Cable; 2,000ft. of 4in. Victaulic Piping; 15 Aerofoil 19in. 2-stage Electric Fans; Two Laycock Vehicle Washers; Three Portable Garage Air Compressors; Heinke Underwater Diving and Cutting Equipments; Stanley 8½in. centre x 4½ft. Motorised A.G.H. S.S. and S.C. Lathe; Ajax 4ft. Motorised Radial Drill; Screwing Machine; Portable Petrol driven Circular Saw Bench, etc.

At CONTRACTORS' PLANT DEPOT, CARMYLE AVE., OFF LONDON RD., GLASGOW, E.2, On WEDNESDAY, 20th, and THURSDAY, 21st APRIL, 1960.
At Eleven O'clock Each Day.
On View Two Days Prior to Sale.
Catalogues from Auctioneers:

SHIRLAW, ALLAN AND CO.
AUCTIONEERS AND VALUATORS,
5 KEITH STREET,
HAMILTON, APRIL, 1960.

WEDNESDAY, 27th APRIL, 1960.
LOWER HOE FARM,
BISHOP'S WALTHAM, HANTS.
(Southampton 11 miles, Winchester 11 miles, Portsmouth 12 miles)

RICHARD AUSTIN AND WYATT having sold the premises, have been favoured with instructions from M. Gamblin, Esq., to sell by AUCTION on the PREMISES as above, at 10 a.m., the
AGRICULTURAL CONTRACTORS' PLANT AND EQUIPMENT
— including —

1959 CATERPILLAR 933 TRAXCAVATOR, with Side Tipping Bucket; 1958 INTERNATIONAL BTD6 DROTT SKID SHOVEL, with Hydraulic Ripper; INTERNATIONAL BTD6 DIESEL CRAWLER; Two FORDSON POWER MAJOR TRACTORS (one with air servo trailer braking); Two Caterpillar D2 Crawlers; D4 Engine, complete; Two Allis-Chalmers M Crawlers; Fordson Major Tractor; 1959 INTERNATIONAL McCORMICK 864 COMBINE HARVESTER; 1957 FORD THAMES TRADER 6D TIPPING LORRY; Three other Lorries; Two Land-Rovers; 1955 Morris Minor; Dodge 6-wheel Diesel Crane; WHEATLEY HYDRAULIC 3yd. DUMP TRAILER (new); Taskers 4-ton Machinery Trailer; Five Trailers; ALVAN BLANCH OIL-FIRED GRAIN DRIER; Cooch No. 5 Grain Cleaner; M/H 728 Combine Drill; Record Straw Chopper; Howard Power Lift 60in. Rotavator; F/R 9-tine Spring-mounted Cultivator; Cultivator; 16in. Mounted Harrows; Two Disc Harrows; F/R Potato Ridger and 2-row Robot Planter; Mounted Garret Hoe; International 5ft. Mounted Mower; Dung Loader; Sack Loader; Allen Auto Scythe; Two 50-ton Presses; Paint Sprays; Chain Saws; Electric Drills, etc., etc.; together with large quantities of Tractor Spares, Tools and Equipment.
On view day prior to Sale.
Refreshments by Cherrysons, of Bournemouth.
Auctioneers: RICHARD AUSTIN AND WYATT, 79 High Street, Fareham (Telephone 4211/3).
And at Southampton and Bishop's Waltham.

LAND AND PROPERTY

CONCRETE WORKS for SALE, situated between Nottingham and Sheffield. Nine acres of freehold land. Buildings 17,000ft. super., mostly substantially built in brick. Ample modern equipment for general concrete products. Price £25,000, plus stock at valuation.—Write Box X.1588, "The Contract Journal."

STOTFOLD, near Letchworth, Herts. — For SALE, 4¼ acres LAND, scheduled for light industrial purposes. — For particulars, apply Sole Agents, F. W. WESTERN AND CO., Biggleswade, Beds. Telephone 2128.

FULLER HORSEY
SONS & CASSELL
AUCTIONEERS AND VALUERS
OF
PLANT, MACHINERY AND
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10 LLOYDS AVENUE
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TELEPHONE: ROYAL 4861
Rothbone

SALE BY AUCTION

E — ♣ — R
By Order of the Secretary of State for War.
MESSRS.

FULLER, HORSEY SONS AND CASSELL have been instructed to offer for SALE by AUCTION in LOTS at the ROYAL ARSENAL, WOOLWICH, LONDON, S.E.18, on TUESDAY, 3rd MAY, 1960, and following day, at 10.30 a.m. precisely each day,
ENGINEERS' MACHINE TOOLS, INDUSTRIAL EQUIPMENT AND SURPLUS STORES
— including —

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Catalogues, 1/- each, admitting two persons on view days (Wednesday, Thursday, Friday and Monday preceding Sale) and one on Sale days, may be had, when ready, from the AUCTIONEERS' OFFICES, Dept. X, 10 Lloyds Avenue, London, E.C.3.

SALES BY TENDER

BOROUGH OF WATFORD.

The CORPORATION has for DISPOSAL the UNDERMENTIONED VEHICLES:—
Two 30cwt. Bedford Vans. Purchased 1947 and 1949.
One 5/6cwt. Bedford Van. Purchased 1947.
One Lewin Sweeping Machine. Purchased 1949.

These vehicles may be inspected at Wiggenhall Depot, Wiggenhall Road, Watford, between the hours of 9 a.m. and 4 p.m. on Mondays to Fridays. No guarantee in regard to the condition of the vehicles can be given.

All or any items may be tendered for. The Corporation does not bind itself to accept the highest or any Tender.

Tenders, in plain sealed envelopes clearly marked "Tender for Vehicles," but bearing no mark or name to indicate the sender, to be delivered to the Borough Engineer, Town Hall, Watford, not later than 2 p.m. on 26th APRIL, 1960.

GORDON H. HALL,
Town Clerk.
Town Hall,
Watford, Herts.

WALTON AND WEYBRIDGE URBAN DISTRICT COUNCIL.
FOR SALE BY TENDER.

TENDERS are invited for the PURCHASE of the FOLLOWING SURPLUS VEHICLES:—
One 1951 Austin A40 Van (reconditioned engine recently fitted).
Two 1951 Lewin Mechanical Road Sweeper/Collectors.

Particulars of the above and Forms of Tender may be obtained from the Engineer and Surveyor, Council Offices, Walton-on-Thames.

Tenders are to be enclosed in plain sealed envelopes, endorsed "Tenders for Surplus Vehicles," and delivered to the undersigned not later than SATURDAY, 30th April, 1960.

The Council do not bind themselves to accept the highest or any Tender.

E. G. HUBBARD,
Clerk of the Council.
Council Offices,
Walton-on-Thames.

THE WITHAM FIRST DISTRICT INTERNAL DRAINAGE BOARD.

Offer for SALE by TENDER One 10RB DRAGLINE EXCAVATOR, No. 12148, 3VRHN Engine, 281319, at work near Lincoln. Tender Form and particulars from HIGGS CHAMBERS, 187 High Street, Lincoln.

ACCOMMODATION

CARAVANS TO RENT for men with families. Rent £7 to £17 per month. Delivery anywhere. LANDSMAN'S SERVICES, Buckden, Huntingdon. Telephone: Buckden 287.

ACCOMMODATE YOUR EMPLOYEES in a cosy 4-berth CARAVAN, fully equipped with heating, lighting, cooking and washing facilities. Hire rates from 50/- per week for four persons. Caravans delivered anywhere. — NORTHERN CARAVAN DISTRIBUTORS, Handforth, Ches. Tel.: Mercury 4256/6.

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ATTENTION!

ALL CIVIL ENGINEERING and BUILDING CONTRACTORS

A unique opportunity of purchasing all types of good second-hand plant presents itself at

HIGHLY IMPORTANT
TWO DAYS' SALE BY AUCTION

including

Caterpillar D.W.21 and Tournapull Motor Scrapers; Caterpillar D.9, D.8, D.7 and D.4 Tractors and Bulldozers; International T.D.18, B.T.D.6 and T.D.9 Tractors; Fiat 55L Tractors; International 9K.3 and B.6K.3 Drott Skid Shovels; 13-, 9-, 6- and 4-yard Scrapers; Lima, Manitowoc, Ruston-Bucyrus, Priestman and Smith Excavators, from 2½- to ⅜-yard; Weatherill, Chaseside and Matbro Loading Shovels; Whitlock Dinkum Diggers; Dumpers, from 4½- to ⅝-yard; Concrete Mixers, from 2-yard to 5/3½ cub. ft.; Stationary and Portable Air Compressors; 7-, 5- and 3-ton Electric Derrick Cranes; Mobile Cranes, from 5 tons; Steam Loco. Cranes; Concrete Pumps; Centrifugal and Diaphragm Pumping Sets; Hoists and Elevators; Diesel and Electric Locos.; Galion Grader; Diesel Road Rollers; Fork Lift Trucks; Tunnelling Equipment; New and Reconditioned Plant Spares; Motor Lorries and Trucks; Large Quantity Power Cable; Steel Piping; Stanley Lathe; Air Tools; And many other useful items of Equipment

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Concrete Buckets

FOR EVERY APPLICATION

Of advanced design Blaw Knox Concrete Buckets ensure high operating efficiency. They are robustly constructed enabling them to stand up to the most arduous operating conditions.

Large discharge opening permits rapid, clean but easily controlled discharge of concrete.

CLAMSHELL GATE
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for low slump concrete

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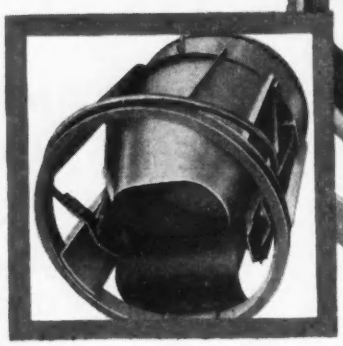
For full details write for Publication 296



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INDEX TO ADVERTISERS

Page

A

A.B.C.D. (Raynes Park), Ltd. 160
A.C.E. Machinery, Ltd. 159
A.E.C., Ltd. xv
Acrow (Engineers), Ltd. 148, 190
Allam, E. P., & Co., Ltd. 152
Allen, John, & Sons (Oxford), Ltd. 239
Anderson-Grice Co., Ltd. 181
Arup & Arup, Ltd. ....xvib
Atlas Copco (Great Britain), Ltd. 267
Aveling-Barford, Ltd. ....viia

B

Bamford, J. C., (Excavators), Ltd. ....vb, ic, iic, iiic, ivc
Barnards, Ltd. 164
Batley, Ernest, Ltd. 150
Benford, Ltd. 155
Beresford, James, & Co., Ltd. 250
Blackwell, C. A., (Contracts), Ltd. 274
Blackwood Hodge ....Covers i and viii, ia
Blaw Knox, Ltd. ....xiiib, 204
Boydell, E., & Co., Ltd. ....ib
Branch, Jack, (London) 158
Breeden, Wilmot, Ltd. 273
British Cellophane, Ltd. 146
British Steel Piling Co., Ltd. 160
British Vacu-Lug, Ltd. 164
Broom & Wade, Ltd. 149
Brown, David, Construction Equipment, Ltd. x
Buckton, Ltd. 276

C

C. & A. Plant Services, Ltd. 156
Caldwells, Ltd. 252
Carroll, P. J. 154
Cartruk, Ltd. 182
Case, J. I., Ltd. 246
Causeway Reinforcements, Ltd. 245
C.E.T. (Plant), Ltd. viii
Chain Link Fencing, Ltd. 162
Clifton, I., & Sons, Ltd. xiv
Cohen, George, Sons & Co., Ltd. ....xia, 250
Compactors Engineering, Ltd. 161
Concrete Pump Co., Ltd. 265
Contractors' Services, Ltd. 175
Cowley, Martin, Ltd. 151
Cox, H., & Sons (Plant Hire), Ltd. 270
Cripps, R., & Co., Ltd. ....ivb

D

Davies, Alan R., Ltd. 146
Dawson, W. A., Ltd. 252
Denny Mott & Dickson, Ltd. 244
Derbyshire Tractor Service, Ltd. 272
Diving Specialists, Ltd. 189
Doe, Ernest, & Sons, Ltd. ....v, 147
Dorman Long (Steel), Ltd. ....ixb

E

Eagre Construction Co., Ltd. ....xvib
Eimco (Great Britain), Ltd. ....xiib
English Electric Co., Ltd. 190
Equity Credit Co., Ltd. 270

Page

F

Fodens, Ltd. ....xib
Ford Motor Co., Ltd. 176, 177, 178, 179
Foster, Arthur, (Construction Engineers), Ltd. 158

G

Gazeway Plant Hire, Ltd. 272
General Roadwork, Ltd. 182
Gibson, Arthur L., & Co., Ltd. 264
Goodenough Engineering Group ....via
Government of Canada ....Cover v
Grayston Plant & Engineering Co., Ltd. 163
Greenham Equipments, Ltd. ....Cover iii
Grundy, James, & Co., Ltd. 266
Gullick, Ltd. 162

H

Hardun & Sons, Ltd. ....Cover ii
Hawley Plant, Ltd. 248
Helicopter Services, Ltd. 152
Holman Bros., Ltd. ....xiia
Hunter, G., (London), Ltd. 189
Hymatic Engineering Co., Ltd. ....Cover iv

I

Imperial Chemical Industries, Ltd. 206
Industrial Pumps, Ltd. 156
International Harvester Co. of Great Britain, Ltd. vi, vii

J

Joy-Sullivan, Ltd. ....viiia, ixa

K

Kebric Plant, Ltd. 187
Kirkby & Sons (Sales), Ltd. 158

L

Le Tourneau-Westinghouse Co. xvi
Leverton, H., & Co., Ltd. ....iib, iiib
Liner Concrete Machinery Co., Ltd. 146, 157, 160
Liverpool Borax Co., Ltd. 274
Low, James F., & Co., Ltd. xii
Lumley (Plant), Ltd. xiii
Lyon, Arthur, & Co. 183

M

MacLellan, George, & Co., Ltd. 248
Magnet Joinery, Ltd. 269
Mathew Brothers ....vib, viib
Maxim Conveyors (England), Ltd. 261
M.E. Engineering, Ltd. 158
Mercantile Credit Co., Ltd. 186
Merton Engineering Co., Ltd. ....xb
Michigan (Great Britain), Ltd. ....Cover vi and vii
Mobile Haulage Co., Ltd. 264
Moore's Plant, Ltd. ....viiib
Morris & Co. (Shrewsbury), Ltd. 148

N

Northide, Ltd. 240

O

Olding, Jack, & Co., Ltd. 153

Page

P

Panel-Lastic Construction Co., Ltd. 160
Parker, Frederick, Ltd. 145
Pashley & Trickett, Ltd. 271
Reel, H., Ltd. 264
Perry, W. Harold, Ltd. 180
Personnel Administration, Ltd. 190
Petters, Ltd. 185
Phœnix Shovel Co., Ltd. 182
Photostat, Ltd. 262
Pike, George, Ltd. 243
Plus Gas Co., Ltd. 262

R

Ramset Fasteners (U.K.), Ltd. 247
Rapid Metal Developments, Ltd. iv
Road Machines (Drayton), Ltd. 249
Romford Portable Buildings, Ltd. 189
Rowley Plant Co., Ltd. 160
Ruberoid Co., Ltd. 184

S

Saville (Tractors), Ltd. i
Scotney, Tom M., Ltd. 158
Sellers, H., (Leeds), Ltd. 160
Selwood, William R., Ltd. 150
Sharp Jones & Co., Ltd. 241
Shell-Mex & B.P. Ltd. ....iia
Shirlaw, Allan & Co. 203
Simdine ....xa
Simms, Sons & Cooke, Ltd. 268
Skyhi, Ltd. 263
Sparrow, G. W., & Sons, Ltd. 275
Stack Protection, Ltd. 150
Stanley, W. F., & Co., Ltd. 266
Steel Fabricators (Cardiff), Ltd. ....xivb, xvb
Survey & General Instrument Co., Ltd. 262
Symes (Plant Sales), Ltd. 252

T

Tarmac Roadstone, Ltd. xi
Thorn, J., & Sons, Ltd. 148
Thwaites Engineering Co., Ltd. ix
Tibbetts, W., & Sons, Ltd. 268
Trianco, Ltd. xiv
Trist, Hubert H. P., Ltd. 276
Tunny Cranes, Ltd. ....ii, iii

U

Under Water Welders & Repairers, Ltd. 250
Universal Divers, Ltd. 266

V

Val de Travers Asphalte Paving Co., Ltd. 243
Victor Products (Wallsend), Ltd. 162

W

Ward, A. J., & Sons, Ltd. 154
Ward, Thos. W., Ltd. ....iva, va
Wednesbury Tube Co., Ltd. 188
Whitecross & Co., Ltd. 242
Whitehouse, A. E., Ltd. 180
Whitlock Bros., Ltd. ....iiia
Wilmslow Plant Hire Co., Ltd. 189
Wood, Pritchett & Partners, Ltd. 251

Y

Yorkshire Air Taxi 180

Advertisements received too late for Classification

EAST SUFFOLK COUNTY COUNCIL.

ROADS AND BRIDGES DEPARTMENT.

TENDERS are invited for HEATING and PLANING, and SURFACING with ASPHALT, approx. 14,000 sq. yd. of TRUNK ROAD at STRATFORD ST. MARY. Accepted contractor to undertake both operations.

Conditions of Contract, Specification, Bill of Quantities and Tender Form, etc., may be obtained from County Surveyor, County Hall, Ipswich (Contract No. 26).

Tenders to be delivered to the undersigned by First Post, 2nd MAY.

G. C. LIGHTFOOT,
Clerk of the Council.

County Hall,
Ipswich.
6th April, 1960.

COUNTY BOROUGH OF BLACKBURN.

TENDER FOR SURFACING DRESSING.

Contractors wishing to TENDER for the SUPPLY and APPLICATION of BITUMEN BINDER for the SURFACE DRESSING of approx. 68,000 sq. yd. of CARRIAGEWAY should submit their names to the Borough Engineer, Town Hall, Blackburn, not later than the 30th APRIL, 1960.

FRANK SQUIRES,
Town Clerk.

CITY OF PETERBOROUGH.

SURFACE DESSING OF CARRIAGEWAYS WITHIN THE CITY, 1960.

TENDERS are invited for the SURFACE DRESSING of approx. 100,000 sq. yd. of CARRIAGEWAYS within the City of Peterborough.

Full details and copies of the contract document may be obtained from Mr. L. H. ROBJOHN, M.B.E., A.M.I.C.E., City Engineer and Surveyor, P.O. Box 10, Town Hall, Peterborough, on payment of a deposit of Two Pounds, which will be returned on receipt of a bona-fide Tender, not subsequently withdrawn. The Drawings may be inspected at the City Engineer's Office, Room 63, Town Hall, Peterborough.

Tenders, in the special envelopes provided, endorsed "Surface Dressing, 1960," should be delivered by 10 a.m. on 3rd MAY, 1960, to the undersigned.

C. PETER CLARKE,
Town Clerk.

Town Hall,
Peterborough.
April, 1960.

WIGSTON URBAN DISTRICT COUNCIL.

NEWGATE END DEPOT IMPROVEMENT SCHEME.

BUILDERS are invited to TENDER for the CARRYING OUT of EXTENSIONS, ADDITIONS and ALTERATIONS, including a GARAGE of 4,800 sq. ft. area, at the Council's Newgate End Depot, Wigston.

Particulars, Specifications, Bills of Quantities and Form of Tender may be obtained from, and Drawings inspected at, the Office of the Engineer and Surveyor, at the address below, on payment of a deposit of £5 5s., which is returnable on receipt of a bona-fide Tender. Cheques to be made payable to Wigston Urban District Council.

Tenders, in the plain envelope supplied, are to reach the undersigned not later than 10 a.m. on 2nd MAY, 1960.

W. H. GUNNING,
Clerk of the Council.

Council Offices,
Wigston, Leics.

MIDHURST RURAL DISTRICT COUNCIL.

6IN. WATER MAIN EXTENSION—GRAFFHAM TO BEX MILL.

TENDERS are invited on a fixed-price basis for the SUPPLY and LAYING of about 2½ miles of 6in. dia. WATER MAIN and for incidental works.

General Conditions, Specification, Bills of Qantities, Drawings and Form of Tender may be obtained on or after 14th April, from the Council's Engineer and Surveyor upon payment of a deposit of £2 2s., which will be refunded on receipt of a bona-fide Tender.

Tenders must be enclosed in a plain sealed envelope, endorsed "Graffham to Bex Mill Water Main Extension," and delivered to the undersigned by Noon on MONDAY, 9th May, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

D. L. BLAY,
Clerk of the Council.

Council Offices,
Midhurst.

COVENTRY CORPORATION.

TENDERS invited for SUPPLY of FOLLOWING MATERIALS during the year ended 30th June, 1961:

Schedule

(8) Electric Lamps and Electrical Accessories.

Tender Forms from CITY ENGINEER, Council House, Coventry. Completed Tenders returnable by 9 a.m., MAY 5th, 1960.

CIVIL or STRUCTURAL ENGINEERING DESIGNER REQUIRED for head office appointment. Experience in reinforced concrete design, foundations and industrial structures an advantage. Permanent position with good salary, bonus scheme, and opportunity for advancement. Entry into superannuation scheme at the end of 12 months' service.—Applicants should write, stating age, qualifications, and details of career to date, to THE MITCHELL CONSTRUCTION CO., LTD., Wharf Works, Peterborough.

BUYING CLERK.—ROBERT M. DOUGLAS (CONTRACTORS), LTD., REQUIRE experienced man with good knowledge of materials markets to take charge and develop section in estimating department to obtain material and sub-contract quotations. Excellent opportunity for man with ability and initiative to control team under limited supervision of Chief Estimator. Preference given to applicants with experience in interpreting specifications, bills of quantities and drawings.—Apply, in confidence, stating age, experience, and salary required, to the Secretary, 395 George Road, Birmingham, 23.

ASSISTANT PLANT AND TRANSPORT MANAGER. Civil engineering company invite applications for the above post. Applicants must have suitable qualifications or training for this progressive post.—Applications, in writing, to GALLIFORD AND SONS, LTD., Wolvey, Hinckley, Leicester.

WANTED, ELECTRICAL ENGINEER (A.M.I.E.E. preferred), with wide experience of civil engineering contracts, to supervise plant and electrical installations and communications on site.—Apply in writing, quoting experience and references, to THE A.C.D. BRIDGE COMPANY, Forth Road Bridge, South Queensferry, West Lothian.

COUNTY BOROUGH OF SWANSEA.

BOROUGH ARCHITECT'S (CENTRAL WORK'S) DEPARTMENT.

TENDERS FOR NEW CONCRETE MIXERS AND DUMPERS.

TENDERS are invited for the SUPPLY of the FOLLOWING:—

Three Winget 5/3½ Concrete Mixers.
Two Winget 7/5 Hydraulic Mixers.
Two Thwaites Diesel Dumpers.

Tenderers are expected to take as part exchange certain items of plant being renewed.

Forms of Tender, together with details of second-hand plant as part exchange, may be obtained from the Borough Architect, The Guildhall, Swansea, to whom they must be returned, in the official envelope supplied, not later than MAY 3rd, 1960.

T. B. BOWEN,
Town Clerk.

Guildhall,
Swansea.
April 8th, 1960.

BOROUGH OF WHITLEY BAY.

(1) SURFACE DRESSING OF ROADS (1960-61). APPROX. AREA 62,000 SQ. YD.
(2) HOT CHIP CARPET, APPROX. AREA 16,600 SQ. YD.

Tenders are invited for the ABOVE CONTRACTS, and copies of the necessary documents may be obtained from the Borough Engineer at the address below.

Tenders must be returned, in envelopes provided, to the undersigned not later than Noon, 30th APRIL, 1960.

The Corporation does not bind itself to accept the lowest or any Tender.

F. S. WATSON,
Acting Town Clerk.

Municipal Offices,
Whitley Bay,
Northumberland.
7th April, 1960.

BOROUGH OF SLOUGH.

TOWN HALL—ADDITION TO EXISTING OFFICES.

TENDERS are invited for the ERECTION of a TWO-STOREY EXTENSION to the existing TOWN HALL to accommodate a private telephone exchange and storerooms. The extension will be approx. 28ft. long x 26ft. wide, and is to match the existing building.

Contractors wishing to tender should apply to the BOROUGH ENGINEER, Town Hall, Slough, not later than 29th APRIL, 1960, for Forms of Tender and Bills of Quantities. Applications must be accompanied by a deposit of Two Guineas, which will be refunded on receipt of a bona-fide Tender and the return of the contract documents.

Tender documents, together with the closing date for the receipt of Tenders, will be forwarded to applicants during May, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

CHISLEHURST AND SIDCUP URBAN DISTRICT COUNCIL.

TENDERS will be invited during 1960-61 for EXTERNAL PAINTING to 500 PROPERTIES in Six Groups, and INTERNAL DECORATIONS to 160 PROPERTIES in Five Groups. Contractors wishing to tender for any groups must apply to Housing Manager before 30th APRIL, 1960.

T. W. FAGG,
Clerk of the Council.

Council Offices,
Sidcup Place,
Sidcup.

PORTLAND URBAN DISTRICT COUNCIL.

PUMPING EQUIPMENT.

The Council invite firms specialising in the MANUFACTURE and SUPPLY of 24in. SUBMERSIBLE BOREHOLE PUMPS, automatically controlled, together with other incidental equipment, who would like to submit a TENDER, to apply to me for Specification and Tender Form.

ERIC B. CULLIN,
Water Engineer.

Council Offices,
Portland.

STOCKPORT CORPORATION.

TENDERS invited for SUPPLY of LABOUR and MATERIALS for the LAYING, by machine, at GORTON ROAD, REDDISH, of a HOT ROLLED ASPHALT CARPET on an existing setts paving. The area involved is approx. 11,000 sq. yd. Copies of documents from BOROUGH SURVEYOR, Town Hall, Stockport. Tenders returnable by Noon, 16th MAY, 1960.

BOROUGH OF CHIPPING NORTON.

Karrier Bantam All-steel 7 cu. yd. REFUSE LORRY for SALE, 16/48-h.p. Petrol Engine, Hydraulic Tipping Gear. Registered 1954. Mileage 29,471.—Apply to: BOROUGH SURVEYOR, Guildhall, Chipping Norton.

THE MITCHELL CONSTRUCTION CO. (LEEDS), LTD., REQUIRE the following staff: (1) ESTIMATORS for both building and civil engineering projects; (2) JUNIOR SITE ENGINEER, 21-24 years of age, previous experience with instruments essential; (3) BUILDING GENERAL FOREMAN, preferably Joiner by trade, with experience of public buildings, office blocks, etc. Excellent opportunities in an expanding company for the right men.—Reply in writing to Moorland Works, Gelderd Road, Leeds, 12, giving age, details of previous positions held, and salary required.

ASSISTANT ENGINEER / SURVEYOR REQUIRED for land surveys, design of roads and sewers, setting out and supervision of road works by direct labour. Applicants should have received professional training and be of an intermediate standard. This is a new post in an expanding department, and provides excellent prospects for the right man. Non-contributory pension scheme.—Applications, in writing, stating age, qualifications, experience and salary required, to the Engineer and Surveyor, A. J. WAIT AND CO., LTD., Wellington Crescent, New Malden, Surrey.

CIVIL ENGINEER, with good all-round experience, particularly in roads and sewers, REQUIRED for Northumberland. House could be made available, if required.—Write, stating age, qualifications, experience and salary required, to Box V.1678, "The Contract Journal."

BOROUGH OF DAGENHAM.

TECHNICAL ASSISTANT (BUILDING).

Salary grade £640 to £795 inclusive at age 26 years and over.

Applicants should have a good knowledge of estimating and procedure for quantities up to City and Guilds standard.

Experience in dealing with final accounts an advantage.

Form of application and further particulars from the Borough Surveyor.

Closing date, 7th MAY, 1960.

KEITH LAUDER,
Town Clerk.

Civic Centre,
Dagenham.

CITY OF WAKEFIELD.

CITY ENGINEER'S DEPARTMENT.

ASSISTANT HIGHWAYS SUPERINTENDENT.

APPLICATIONS are invited for the ABOVE SUPERANNUABLE POST on the permanent staff of the City Engineer at a salary in accordance with Miscellaneous Grade V (£650 x £20(1) x £25(1) x £20(1)—£715).

Applicants must be apprentice-trained and have had a sound experience in highways and sewer construction and maintenance, and must hold a full driving licence. Preference will be given to applicants qualified by examination of the Institute of Works and Highways Superintendents.

Housing accommodation will be provided, if necessary.

Applications, giving age and full particulars of experience, with the names of two referees, to be sent to the CITY ENGINEER, Town Hall, Wakefield, by the 29th APRIL, 1960.

DUNMOW RURAL DISTRICT COUNCIL.

APPOINTMENT OF ENGINEERING INSPECTOR.

APPLICATIONS are invited for the ABOVE APPOINTMENT on the staff of the Resident Engineer for the construction of sewerage and sewage disposal works under the direction of the Consulting Engineers, Messrs. J. D. and D. M. Watson, MM.I.C.E., 67 Tufton Street, Westminster, S.W.1.

The salary offered will be between £700 and £750 per annum, according to experience. The appointment will be subject to one month's notice on either side and, subject to satisfactory service, is expected to last at least a year. Applicants to possess transport for which a travelling allowance, not exceeding the rate payable for a 10-h.p. or 1,199 c.c. vehicle, will be payable in accordance with the National Scheme of Conditions of Service.

Applicants, who should have had considerable experience of similar work, should apply to the undersigned by 30th APRIL, 1960, giving full particlars of age, qualifications and experience, and enclose copies (not originals) of not less than two recent testimonials.

A. H. BURTON,
Clerk of the Council.

The Council Offices,
Dunmow, Essex.

DEWSBURY MOOR CREMATORIUM BOARD.

APPOINTMENT OF CLERICAL ASSISTANT.

APPLICATIONS are invited for the APPOINTMENT of a CLERICAL ASSISTANT at a salary in accordance with Clerical Division I (£595, rising to £670 p.a.).

The appointment will be subject to one month's notice on either side and to the provisions of the Local Government Superannuation Acts. The successful applicant will be required to pass a medical examination.

Applications, giving details of age, present and past appointments, and full particulars of experience, should be sent to the undersigned not later than the 26th APRIL, 1960.

A. NORMAN JAMES,
Clerk of the Board.

Town Hall,
Dewsbury.
7th April, 1960.

FYLDE WATER BOARD.

PROPOSED HYDRAULIC PANEL, ETC., FOR LAUNDWOOD PUMPING STATION, WHITEWELL, NEAR CLITHEROE.

TENDERS are invited for the SUPPLY and DELIVERY of FLOW and PRESSURE RECORDING PANEL and DIFFERENTIAL PRESSURE PRODUCING EQUIPMENT.

Further particulars and tender documents from the ENGINEER TO THE BOARD, Sefton Street, Blackpool.

Tenders must be received not later than 16th MAY, 1960.

SITE ENGINEER.—Vacancy in Birmingham area on large contract for Site Engineer to join contract staff of a national civil engineering and building contractor. Duties at first will consist of setting-out, levels, site engineering works, etc. Good prospects for rapid promotion to the right man, and would suit a young, keen Engineer with ambition. — Write in confidence to Box V.1692, "The Contract Journal."

QUANTITY SURVEYOR.—Applications invited from fully trained Surveyors by a building and civil engineering contractor with headquarters in the Midlands, to operate over group of large contracts in the preparation of monthly certificates and variations for final accounts. The position is permanent, with a good salary, and there is a pension and bonus scheme. Write in confidence to Box V.1693, "The Contract Journal."

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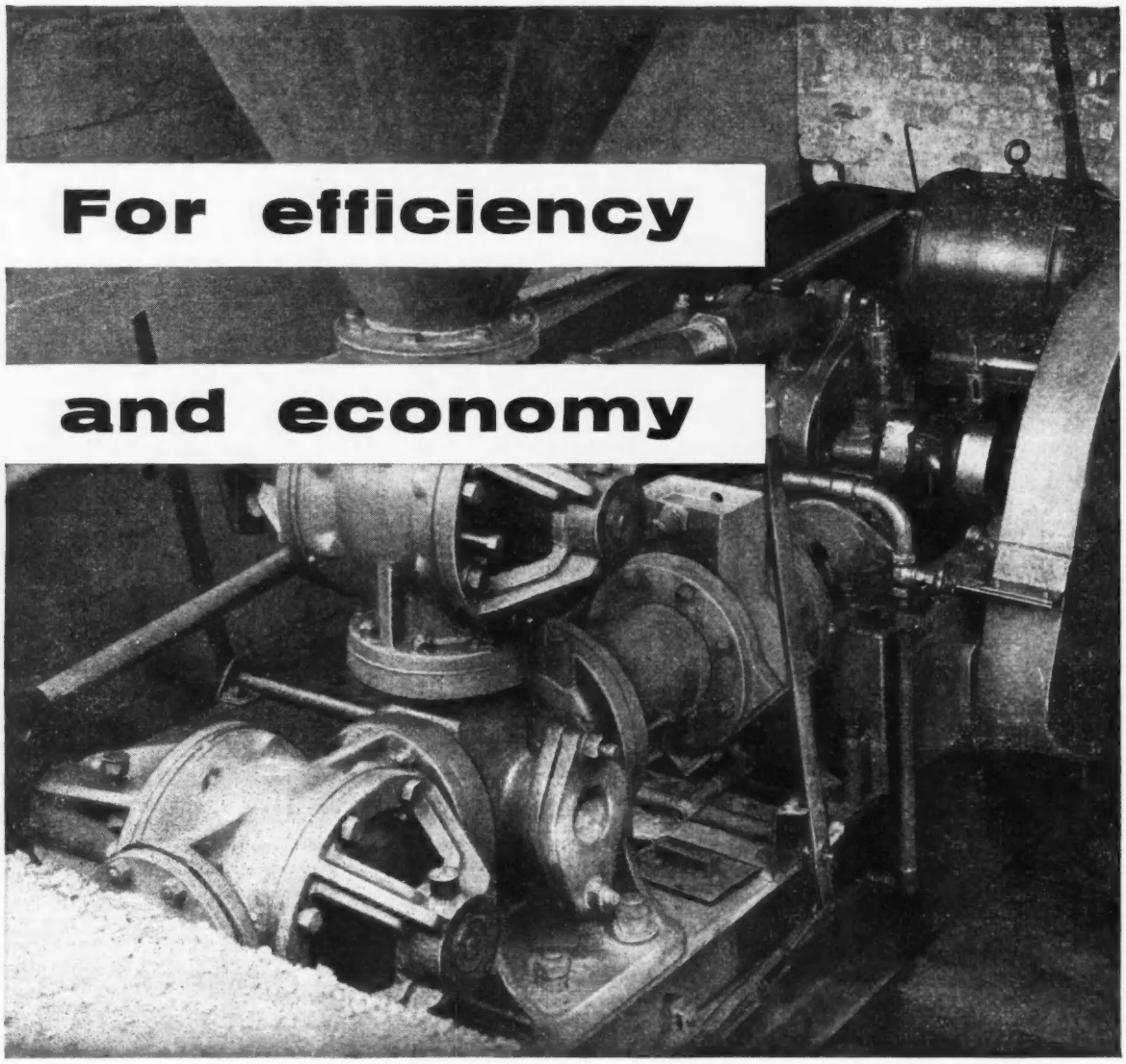

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PRINCIPAL CONTENTS

PAGE
£4m. Lancaster By-pass Completed: Second Section of Lancashire North-South Motorway ... 208
15-year Road Programme Urged by F.C.E.C. Chairman ... 210
Teamwork in Building: East Anglian Architects, Quantity Surveyors and Builders in Conference ... 211
In Parliament ... 212
A Lawyer Considers: Revisions to Form CCC/Wks/1 ... 213
Work Begun on New £3m. Passenger-Handling Building at London Airport ... 214
Renewal of Wallasey Ferry Terminal: New Bridge Replaces 60-year-old Structure ... 215
For the Diary ... 216
Underwater Concrete at Angle Bay ... 217
Late Construction News ... 218
Consultant Discusses Large Span Bridges at Plant Engineers' Meeting 219
Road and Rail Bridge Across the Channel: New Project by International Consortium ... 220
"Propped-Cantilever" System Used in L.C.C. Equipment Centre Building 221
£850,000 Euston Road Improvement Scheme ... 221
Men and Movements ... 222
N.F.B.T.E. Representatives on Government Bodies and Joint Boards ... 223
Talking of Safety, by "Dragee" ... 224
International Construction ... 225
Trade Section ... 226
CURRENT CONSTRUCTIONAL ACTIVITIES:
Projects ... 229
Contracts ... 230
Awards ... 236

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THE BUILDING SOCIETIES BILL

THE new Building Societies Bill has been welcomed by the Building Societies Association. It is likely that this reaction will be echoed by the industry and by the general public.

A lot has happened since 1874, the date from which the present building society law effectively dates. Before the 1914-18 war house investment was mainly local; local people invested money in their own locality in houses built either by themselves or by local builders. There were obvious disadvantages in this—the investor put all his eggs in one basket; he was unable to turn the investment into cash quickly should the need arise; units of investment were inconveniently large; and so on. Other, more attractive and convenient forms of investment came along and inevitably this type of investment in houses dwindled.

The place vacated in the investment market was filled by the owner-occupier aided by building societies. The latter had been started in the last part of the 19th century with the object of making it possible for the small man to borrow sufficient capital to buy a house to live in. The security offered to the investor in the building societies was good, risks were spread and even reduced as the loan was repaid by instalments; and savings could be invested in a national market for mortgages almost as easily as in a savings bank, while the return was usually higher.

There were the beginnings of the present building society movement—a movement that today is responsible for £2,700m. of the savings of 4,000,000 people, most of it lent on mortgages to owner-occupiers.

Inevitably, where growth is haphazard, a number of anomalies are created and the events of last year made it plain that new legislation was urgently required both to protect the investor and to stem the misuse of building society funds going to finance speculative property manoeuvres.

The new Bill tackles the problem realistically. In particular the chief Registrar of Friendly Societies is given much greater powers; he will now be able to appoint an inspector on his own initiative without having to wait for an approach from the members of the society concerned. Indeed, so extensive are the powers envisaged for the Registrar that it seems that some provisions for appeal should be considered.

There is to be much stricter control over the way a society uses its money. Normally no more than 10 per cent. of the total new advances in any year may be made to companies, or in the form of large advances, which means £5,000 or more. Many private house-builders will probably complain that £5,000 is too low. It could, for example, make house-builders' stage finance more difficult and by limiting the numbers of larger houses built for sale could hinder the efforts of the Federation of Registered House-Builders to extend the influence of reputable architects in the private house-building industry.

Other provisions of the Bill relate to advertising and the minimum number of founder members. It is plainly ridiculous that at present as few as four people, for a fee of £20 or so, can start a new building society that can advance funds for all manner of speculative property development.

To sum up, the Bill could give marked stimulus to the extension of house-ownership, to which the present Government is rightly pledged. There is not much wrong with the building society movement as it stands; only a few failures or abuses have been reported, and it is easy to get the issue out of all perspective. But as in all walks of life, a few black sheep can do an immense amount of harm, and if the Bill rids the movement of these it will do a great service not only to the reputable societies who are in the vast majority, but to the industry and to the general public as well.

£4M. LANCASTER BY-PASS COMPLETED

Second Section of Lancashire North-South Motorway

THE completion of the second section of the Lancashire North-South Motorway and an important stage in the proposed Birmingham - Penrith Motorway was reached last Monday when Dr. Charles Hill, Chancellor of Duchy of Lancaster, officially opened the Lancaster By-pass.

More than 11½ miles long, the new by-pass, now part of the M.6, has dual carriageways, each 24ft. in width. A central grassed reservation 39ft. wide will permit the future widening of the carriageways to a width of 36ft., which will allow three lanes of traffic in either direction with a central reservation 15ft. wide.

Hard shoulders, 12ft. 6in. wide, are provided for emergency stopping purposes, and these give the road an overall minimum width of 112ft. Designed for speeds of 70 m.p.h., the motorway has a maximum gradient of 1 in 30; a minimum radius (except on temporary bends) of 2,865ft.; a maximum depth of cutting of 45ft.; and a maximum embankment height of 50ft.

Bridge Construction

The construction of 27 bridges was involved in the contract. Among these, seven carry the motorway over other roads, two cross railways, and four have been constructed over rivers and a canal. Eight roads and a railway are taken over the motorway by bridge, and a number of other structures give farmers access where the route has split their land.

Selection of types of bridge and materials was determined by the engineering problems of the individual sites, and the desirability of choosing structures which would suit their surroundings. The majority of the bridges are of reinforced concrete construction, and generally have open railing tube parapets. Twenty-three of them have prestressed concrete decks, two have steel decks, and one has a reinforced concrete deck. All the structures have a headroom of 17ft., which is the standard minimum clearance plus 6in. to allow for resurfacing in the future.

Facework to abutments, piers and wing walls varies and includes brickwork, plain and treated concrete surfaces and artificial stonework. Foundations have, when site conditions demanded, been provided with piled supports.

A major work in the construction of the by-pass was the provision of a bridge over the River Lune. The largest structure on the route, this is a reinforced concrete open spandrel arch with a clear span of 230ft., a rise of 44ft., an overall length of 400ft. and a width between parapets of 97ft. The parapets of the bridge are of the open railing type which are continued to the north and south to provide an unbroken line over and adjoining the bridge. A small model of the bridge and its environs was made in the first instance to ensure that it would merge pleasingly into the landscape, and at that stage it was considered that the face of the arch ring should be emphasised by the use of white concrete. Once a larger scale profile had been constructed, however, it became apparent that by giving too much prominence to the arch ring this would detract from the rest of the structure. It was finally decided after considering all the aspects that a bush hammered finish should be employed. Its design, together with that of many other bridges on the by-pass, has been approved by the Royal Fine Art Commission.

The River Lune bridge consists of two arches with a 10ft. gap between, and a feature of its construction was the use of the same scaffolding, without dismantling, for both arches. A timber gantry was provided for the first arch, on which 100,000ft. of scaffold tubing was erected to hold the shuttering for the concrete. On completion of this arch, instead of the scaffolding being dismantled and re-erected, it was winched across to a timber gantry which had already been prepared for the second arch. This operation, which was carried out by the use of a jacking system, took 24 hours, and it is estimated that it allowed construction of the second arch to begin five or six weeks earlier than would otherwise have been the case.

Another unusual structure is the Sill House bridge which carries the motorway over the River Conder, and consists of two decks. The upper of these carries the motorway itself, and the lower allows cattle to be driven under the road to land on the other side, at the same time crossing the river.

Aerial view of the by-pass north of the River Lune bridge

Road Construction

The carriageways are designed to carry the heavy loading specified by the Minister of Transport. Sub-soil conditions vary considerably throughout the length ranging from peat and clays of varying qualities to rock, and construction depths vary from 12in. in the rock areas to 36in. according to design requirements. The sub-base is partly of gravel and partly of crusher run limestone, and the base of the carriageway consists of 8in. of premixed waterbound limestone macadam with cement added in the proportion of one part to 60 by weight. Surfacing comprises two-course hot rolled asphalt 4½in. thick, made up of a base course 3in. thick and a wearing course 1½in. thick, with precoated granite chippings applied to the surface to provide a high resistance to skidding. The only temporary surface is on the sharp curve near Hampson Green where fine cold asphalt has been laid.

Surface water discharging from the carriageway is carried into gullies located in the combined concrete marginal strip and drainage channel which has an overall width of 24in. This feature has not been introduced previously in motorway construction, its object being to ensure maximum efficiency of discharge into the piped drainage system and preventing discharge onto the hard shoulders and verges. Flush concrete marginal strips are provided on the high side of the carriageways 20in. wide where they are in their permanent position, and 12in. wide where they have to be removed when the carriageways are widened.

The hard shoulders have in general been soiled and seeded but those recently constructed have not been so treated and in the coming summer will be surface dressed. This was decided in the light of M.1 experience, where it has been found that under adverse weather conditions, vehicles using the shoulders have tended to bog down.

Cuttings and embankments along the

route involved nearly 2,000,000 cu. yd. of excavation. Peat which lay to a depth of 18ft. in the former marshland at the northern end of the road was excavated to the extent of more than 120,000 cu. yd., and replaced by cobblestone bottoming.

Among the major quantities of materials used were 800,000 tons of imported filling; 360,000 tons of gravel and crusher sub-base; 140,000 tons of premixed water-bound macadam; 70,000 tons of hot rolled asphalt; 70,000 cu. yd. of concrete; 1,500 tons of reinforcement steel; 130 tons of structural steel; 620 miles of high tensile prestressing wire; and 65,656 lin. ft. of prestressed concrete bridge beams. A total of 62,000 lin. yd. of sewers and culverts have also been constructed.

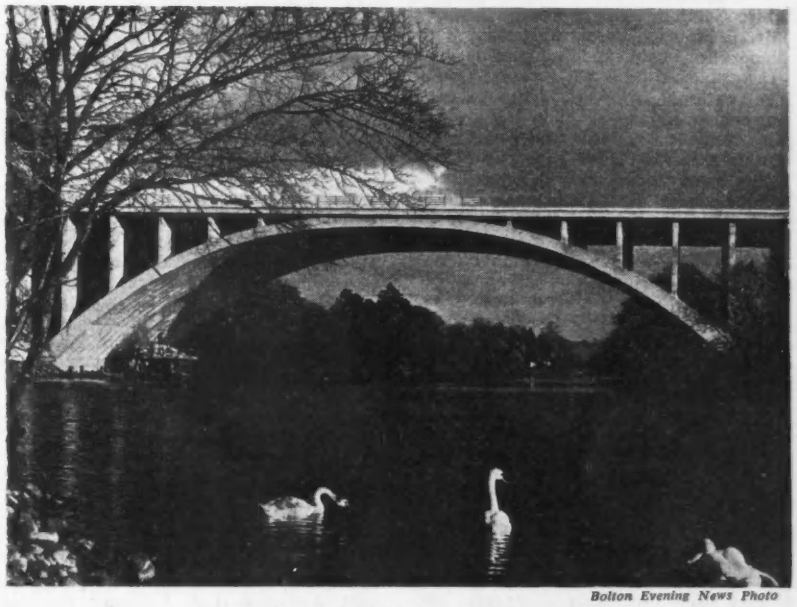
Future Intentions

The by-pass commences at Hampson Green on the London-Carlisle A.6 route, and terminates at Keer Bridge, north of Carnforth, where it rejoins the A.6. A 240ft. diameter roundabout connecting with the A.6 has been provided at each end.

Only one intersection occurs along the whole of the motorway, and this comprises a two-level junction of the double U type, with the Lancaster-Sedbergh road, A.683, at about the halfway mark. A further link is planned at this point at a later date to connect with the Morecambe road.

Towards the northern end of the by-pass, a relatively sharp curve to the north-west will eventually form part of a two-level junction to carry the motorway on to Penrith. Beyond this point the present route will act as a link only to the A.6, and on this portion the central reservation width has been reduced to 13ft. A similar curve at the southern end will also be incorporated into a two-level junction to retain connection with the Hampson Green part of the A.6 when the motorway is ultimately continued southwards to join the Preston By-pass at Broughton.

Work commenced in July, 1957, and was scheduled to be completed in 28 months. Adverse weather conditions during 1957 and 1958 made earthmoving operations slow and difficult but bridge construction was not unduly interrupted. In view of the delay in the earthmoving programme, however, the contractors asked for an extension of time and a five-month entension to May, 1960, was granted. The summer of 1959 made it possible to expedite the works generally but adverse conditions during the past winter again retarded progress. Nevertheless the work was completed one month in advance of the extended completion date.



Bolton Evening News Photo

Twin arches of the bridge over the River Lune

Engineers and Contractors

The whole of the design work and the supervision of the construction of the works—with the exception of the railway bridge near Carnforth—has been carried out by the staff of the county surveyor and bridgemaster to Lancashire County Council, Mr. James Drake, B.Sc., M.I.C.E., M.I.Mun.E., F.I.H.E., in close co-operation with the staffs of the chief engineer, Mr. J. F. A. Baker, M.I.C.E., M.I.Mun.E., A.M.Inst.T., and the divisional road engineer (north-western), Mr. V. H. Haynes, A.M.I.C.E., M.I.H.E., of the Ministry of Transport. The Carnforth railway bridge was designed by Mr. A. N. Butland,

(Concluded on next page)

River Lune bridge and intersection with the A.683

15-YEAR ROAD PROGRAMME URGED BY F.C.E.C. CHAIRMAN

SPEAKING at the annual dinner of the South Wales and Monmouthshire Section, held in Cardiff recently, Mr. J. Maurice Laing, chairman of the Federation of Civil Engineering Contractors, said that as a proportion of the national product, Britain's road expenditure was less than half that of any of the major industrial countries in Western Europe. The time had arrived when a thorough study of the potential needs of the next 15 years should be undertaken.

A plan devoting the necessary money to road construction over that period should be evolved and, once evolved, should not be deviated from. Without such a plan our competitive power as an industrial nation would be seriously impaired.

Mr. Laing also referred to the substantial spare capacity available in the civil engineering industry for all classes and sizes of projects. In particular, he said there was never likely to be a time when the level of prices would be more competitive than the present for local authorities to put smaller and medium sized schemes out to tender.

Proposing a toast to "The Federation," the principal guest, Sir Edward Muir, permanent secretary, Ministry of Works, said that the Government had to try to foresee what was likely to happen, and use the techniques and instruments available, to try to maintain the delicate balance between runaway inflation and plunging recession in an economy which was dependent in vital respects on matters outside its control.

The building and civil engineering industries might sometimes have felt over the past years that they were the victims of blind and drastic changes in policy. If they were to avoid those abrupt changes they would have to dispel the clouds of uncertainty concealing the future, and the Federation could render great assistance with statistical information as to the state of the industry, the future load of work, and the prospects of carrying it out smoothly.

Major Disappointment

Another speaker was Mr. John H. Davies, chairman of the South Wales and Monmouthshire Section of the Federation, who said that a major disappointment in South Wales had been the slow progress with the construction of urban, trunk and motorway roads. He pointed out that in this country we were paying £500m. a year in motor taxation, which was the sum West Germany was spending on roads this year. In Britain in the last few years we had spent less than £150m. a year, and that included maintenance and repairs.

Mr. Davies referred to the industrial developments in South Wales since the war, and said that the civil engineering contract placed for the new Spencer steelworks with Sir Robert McAlpine and Sons, Ltd., was undoubtedly the biggest civil engineering contract ever placed in Wales, if not in the whole of Britain.

A toast to "The Guests" was proposed by Mr. Ronald Horrocks, vice-chairman of the Section, and a response was made by Mr. J. J. Liptrott, divisional road engineer (Wales and Mon.), Ministry of Transport.

Others present at the dinner included the Lord Mayor of Cardiff, Sir Malcolm McAlpine, Sir Maynard Jenour, Sir Julian Pode, Mr. F. Blaise Gillie, secretary, Welsh Office, Ministry of Housing and Local Government, Mr. R. Kean, director, The Federation of Civil Engineering Contractors, Mr. Kenneth Thomas, legal consultant, The Federation of Civil Engineering Contractors, Mr. T. Leslie Lowe, High Sheriff of Breconshire, Mr. Geraint Walters, director for Wales, Ministry of Works, Mr. R. B. Southall, director and general manager, B.P. Refinery (Llandarcy), Ltd., Mr. J. Armstrong, secretary, Civil Engineering Conciliation Board (operatives' side), Alderman H. E. Edmonds, regional secretary, National Federation of Building Trades Operatives, and Mr. H. E. Matthews, national industrial officer, National Union of General and Municipal Workers.

Annual General Meeting

At the annual general meeting of the section, Mr. H. F. Ward reported that during a most progressive year, the Section had established its own scholarship, valued at £350, under the Civil Engineering Scholarship Trust. He also referred to the safety training courses for supervisors which would be held in Cardiff on May 19 and 20, 1960.

Mr. Ward invested Mr. John H. Davies, his successor in office as chairman of the Section, with the Chain of Office. Mr. Ronald Horrocks, J.P., was elected vice-chairman.

A public inquiry into the proposal by the Central Electricity Generating Board to build a nuclear power station at Oldbury in Gloucestershire, is being held at Cossham Hall, Thornbury.

"LONDON FACES DISASTER WITHOUT TRAFFIC PLANS"

LONDON has no traffic plan, the L.C.C. Development Plan is obsolete and "disastrous economic consequences" are possible if new plans aimed to retain London as Britain's national capital are not immediately drawn up.

These are some of the major points in a report given to a private meeting of the All-Party Roads Study Groups of M.P.s at the House of Commons last Tuesday evening. The report has been prepared by six of the engineers, architects and town planners who shared the £4,000 prize-money in the recent Roads Campaign Council competition, "New Ways for London."

In their report to the All-Party Roads Study Group, the authors say: "The L.C.C. Development Plan is obsolete and based on the academic Abercrombie Plan of 1944 when so little was known about motor traffic.

"This situation, if continued, may have disastrous economic consequences. The present machinery for reviewing the official Development Plan is incapable of remedying these defects. A new more scientific long-term plan is needed."

They advocate greater research, surveys of the existing position, scientific forecasts and a study of the effect of universal vehicle ownership on the use of land. Calling for an overall London plan, the six advise the establishment of an "upper tier regional authority with planning as one of its functions.

"The authority should have a research team of town planners, architects, landscape architects, traffic engineers, sociologists and economics."

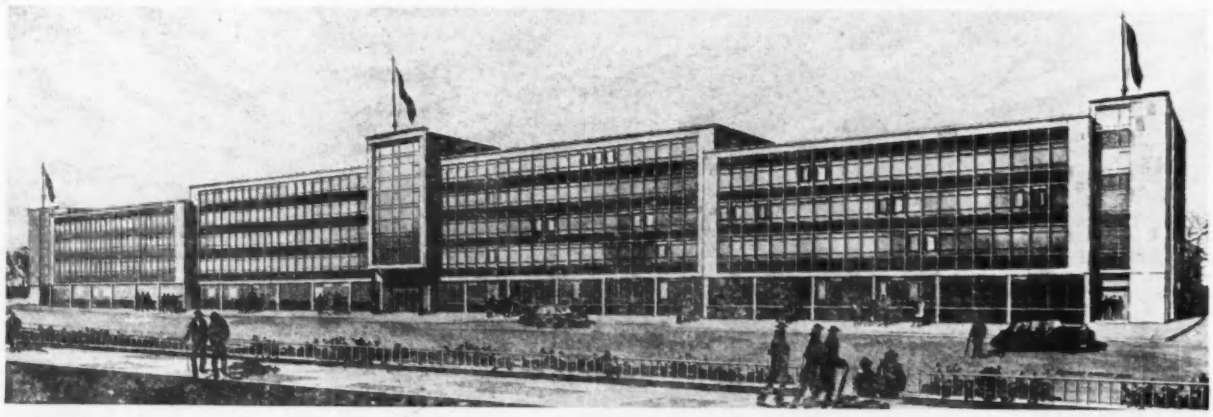
At the close of their report, the authors urgently advise full standard motorways for London; the segregation of traffic which moves at different speeds and the divorce of pedestrian and vehicle traffic.

(Concluded from previous page)

M.I.C.E., chief civil engineer, London Midland Region of the British Transport Commission.

The main contractors for the by-pass were Sir Lindsay Parkinson and Co., Ltd. Among the principal sub-contractors were the following:

Raynor Contracting Co., Ltd.; George Sheppard, Ltd.; Dick Hampton; Harbour and General Works, Ltd.; H. Fairclough, Ltd.; Lane Bros. (Builders), Ltd.; Anglican Building Products, Ltd.; Robert Watson and Co., Constructional Engineers, Ltd.; John Booth and Sons (Bolton), Ltd.; Sheepbridge Company, Ltd.; Trinidad Lake Asphalt Co., Ltd.; Durafencing (Northern), Ltd.; Webster Bros. (Horsforth), Ltd.; T. Graveson, Ltd.



An artist's impression of a new office building at Imperial Drive, Harrow, which is being erected by Higgs and Hill, Ltd., for Stem Properties, Ltd., 23 Lawrence Lane, E.C.2. The architects are Morrison, Rose and Partners, of 4 Wimpole Street, W.1. The building, which will be completed early in 1961, will cost approximately £320,000

Teamwork in Building

EAST ANGLIAN ARCHITECTS, QUANTITY SURVEYORS AND BUILDERS IN CONFERENCE

HOW best to ensure efficient and economic building through a proper appreciation of the professional and managerial functions and responsibilities of all those concerned in a building operation was the theme of a very successful one-day conference held at Cambridge recently. Arranged by the Eastern Counties Joint Consultative Board of Architects, Quantity Surveyors and Builders, the conference was the first of its kind to be held in East Anglia and was attended by some 90 architects, quantity surveyors and builders.

Opening the conference, MR. L. H. GASTON, F.R.I.C.S., chairman of the Board, referred to the importance of teamwork in building and expressed the hope that the conference would become an annual event.

The first speaker was MR. C. A. W. HARMER, O.B.E., director, Pye, Ltd., who dealt with the requirements of the client. Builders must realise, he said, that the client didn't know anything about building or the building industry. Architects made no conscious attempt to show the public what was possible; they should approach the client with a shop window of possibilities to enable him to make up his mind.

On the question of costs, Mr. Harmer said that if the client was told a building would cost, say, £100,000, it invariably worked out at £120,000. This was a great problem for industrialists who were then faced with raising the additional money, either from the bank or the shareholders. The building industry should take steps to see that its costing and methods were better understood by the customer.

Another great problem for the client was that very few buildings were completed on time which threw his plans out and again cost money. Progress work on construction was usually very bad. Builders had much to learn from other industries in the matter of progressing; they did not for instance put pressure on suppliers the same way as did engineering concerns.

Mr. Harmer agreed that the client was often at fault in changing his mind but he had to look into the future. The architect, however, should stand up to the client and make it quite clear what alterations would involve in the way of time and money.

In answer to a question, Mr. Harmer said the losses by clients through completion being late was far in excess of builders' penalties and he would be prepared to give a bonus for earlier completion.

Confusion in Responsibility

MR. E. D. JEFFERIS MATHEWS, O.B.E., F.R.I.B.A., speaking on the role of the architect, said he agreed with Mr. Harmer that compared with industry generally, building was inefficient but manufacturers did not have to contend with such things as the weather. The chief cause of this inefficiency was the confusion in responsibility of individual members of the building team.

The architect must remain the leader and he should be prepared to stand up to the client and tell him that what he wanted was impracticable or expensive as the case might be. The architect tended to take too much on himself and builders sheltered too readily under him. The architect should not have to "police" a building operation; he should be able to place greater responsibility on the builder, for quality, progressing and completion.

Mr. Mathews considered competitive tendering was fundamentally wrong and caused a great deal of the trouble being experienced today. Where nomination was not possible he suggested that a selected list of contractors should be invited to submit a competitive bid based on a fixed fee.

Referring to quantity surveyors, he stated that they would have to be very much better informed on costs so that they could advise the architect and client of the cost of a project at an early date. At the same time the architect must give the quantity surveyor all possible information at an early date.

In reply to questions, Mr. Mathews said the trouble about the building industry was that all parties were worried about being done down. Too much time was being spent on checking accounts by people who hadn't a clue on building operations. Architects must be tough and make it quite clear to a client that there would be a gap between placing a contract and starting work on the site—they had also got to fight for proper preplanning time.

Competitive Tendering Best

MR. E. NORMAN HARRIS, A.F.C., F.R.I.C.S., said we had in this country a more highly developed system of contracting than anywhere in the world, a system which, if properly used, could cater satisfactorily with the majority of client requirements. The burning problem was that this system should be used to its full advantage and not squandered away by ineffective and inefficient management. It was this inefficiency in operation of the traditional contracting system which prompted the promotion of other forms of contracting under the guise of teamwork.

The quantity surveyor had experience in the cost effects and general efficiency of various types of contract, and the advice of the architect and surveyor should be sought by the client as to the manner in which the contract should be let. Clients, and especially industrial clients, were somewhat easily misled into entering forms of contract not entirely to their advantage. The type of contract advocated by surveyors and he hoped architects had been evolved in full knowledge of the difficulties faced by the industry. The risks to be undertaken by builders were best valued as a result of selective competitive tendering on complete bills of quantities and only in this way did the client, in ordinary circumstances, obtain his best value for money with each party to the contract fully aware of his obligations.

It was natural that builders should advocate a system of contracting other than competitive tendering, since package dealing and negotiated contracts were more profitable. It was said that the competitive tendering system was frustrating and unprofitable to the builder. That it was frustrating he could quite believe if the system was not used efficiently and therein lay the great danger. If only the architect and surveyor would play their full part, the competitive tendering system would be acceptable to clients and therefore to builders and there need be no frustration. Whether it was profitable or not was in the hands of the builder. The competitive system was a challenge to his efficiency which other forms of contracting could never be.

Cost Planning

Mr. Harris said quantity surveyors had always advocated that they should be brought into the picture at the earliest stage before any irrevocable decisions affecting cost had been taken. It was a failure of the cost planning systems that they generally started at the sketch plan stage, which was clearly too late. A great deal had been said on the subject of cost planning recently, but not a great deal had been done. More architects and surveyors were, however, realising that only by cost planning in the detailing stage could tenders be received consistently within budgeting figures.

Time—The Greatest Problem

Referring to time, which he described as the greatest problem the building team had to solve, Mr. Harris stated that it was a problem for the architect and surveyor to solve in the pre-contract stage. In the final account stage the surveyor needed the builder's help. The length of time taken to prepare working drawings and bills of quantities was probably the greatest enemy of the present system and the trump card of those who advocated other methods of contracting. The overall time between sketch plan approval and inviting tenders must be drastically curtailed.

The time taken on final accounts was another opportunity for criticising the competitive system. Part of the trouble was inherent in the organisation of quantity surveyors' offices. Because bills of quantities for new jobs had to be sent to tender on set dates, final accounts were too often treated as fill-in jobs. A satisfactory situation would only be created when a final account was treated in the same way as a new job to enable it to be completed in the proper time.

Selection by Lottery

The needs and responsibilities of the builder were discussed by MR. T. V. PROSSER, F.I.O.B., who, referring to competitive tendering, said under this system the builder had to carry a greater risk of not sharing the spoils than his three teammates. The fault seemed to be in the fact that three members of the team had been training together for some months before the fourth member was selected by lottery. It raised the question as to whether it was reasonable to expect a full development of all the advantages of team work while the system of competitive tendering existed.

One of the greatest obstacles to the attainment of high efficiency was lack of confidence in the future volume of work ahead of the industry, an outlook which restricted the rate of intake of trainees both for craftsmen and technicians.

Builder Needs Time

The time allowed for tendering was all too short for the full development of detailed works programmes, budgetary control systems, design of temporary works and all the other techniques of planning and management, whereby the builder could relate achievement to forecast. It was, therefore, important that the information provided for tendering should be as complete as possible.

In the post-contract period the builder needed adequate time to enable him to develop his outline works programme to a fully detailed programme of job procedures. He should be instructed to accept nominated sub-contractors and suppliers so that he could align their activities with the needs of the job. Until he had an opportunity of discussing their requirements to time, access, attendance and all the activities that were implicit in welding them into the whole building procedure, he was not in a position finally to authenti-

(Concluded on next page)

In Parliament

BIRMINGHAM HOUSING SCHEME AT WYTHALL REFUSED PLANNING PERMISSION

THE Minister of Housing and Local Government has refused planning permission for the development by Birmingham City Council of 2,432 acres of land at Wythall for residential and industrial purposes, with the necessary shopping and other facilities.

Questioned by Mr. Dance in the Commons last week, Mr. Henry Brooke said that he had decided to reject the application on the ground that the development would mean a serious incursion into land which ought to form part of the green belt round Birmingham.

Such development might prove unavoidable if no other way could be found of meeting Birmingham's great need. But he was not convinced that decentralisation of industry and housing beyond the green belt was impracticable. In the letter conveying his decision, he had offered to discuss with the authorities concerned ways and means of accelerating provision for this movement of people and industry out of the city. He had also made it clear that the decision did not imply that in his view all the land contained in the application ought necessarily to be included in the green belt.

Forth Road Bridge

Mr. Woodburn asked the Secretary of State for Scotland to what extent before deciding on specifications for approach roads to the Forth Bridge had tests been made of possible improvements in visibility of kerbs in order to ensure the maximum safety for drivers.

In a written answer, the Joint Under-Secretary of State, Mr. Niall Macpherson, replied that no special tests had been made for this purpose. The consulting engineers for the bridge were calling for kerbs according to British Standard 340 which formed part of the normal specification for roads. They were also engaged in research into local sources of supply for kerb and kerbing materials with the object of ensuring that within the specification the most durable and visible kerb was used.

Building Site, St. Marylebone

The Minister of Housing and Local Government was asked by Sir W. Wakefield what steps he was taking to enable the building site at Blandford Street, St, Marylebone, belonging to the London Electricity Board, to be developed, in view of the fact that for 12 years the London County Council had refused permission to complete the building, the steel structure of which had been erected approximately 15 years ago.

Mr. Henry Brooke replied that the structure was the framework of a building specially designed before the war for the electricity department of St. Marylebone Borough Council. The London Electricity Board, in which the property was now vested, found that it could not readily be adapted for its purposes and had in mind to dismantle it.

He understood that a number of applications made by private developers for planning permission to develop the site had been refused by the London County Council. None of these applicants had exercised his right of appeal to him.

Prefabricated Buildings

In a written answer, Mr. Brooke informed Mrs. Butler that four local authorities had made representations to him at different times about difficulties in clearing prefabricated buildings from open spaces. One, the London County Council, had secured private legislation to make it possible for him, subject to public inquiry, to extend the period during which the buildings might be retained. In the case of the three remaining authorities, he was sure that their difficulties could be overcome provided the councils concerned were prepared to act with vigour.

Improvement Grants

Questioned by Mr. Gower, the Minister said that the number of houses and flats improved with the help of grants increased in 1959, by 43,000 in England and nearly 2,000 in Wales. In all, private owners and local authorities with the help of grants undertook improvements to nearly 80,000 dwellings. This upsurge in house improvements was some measure of the success of the House Purchase and Housing Act, 1959, but he was not yet satisfied. He hoped for a further increase.

Road Repairs

When Mr. Randall asked to what extent road repairs undertaken by local authorities were in arrears, the Minister of Transport, Mr. Ernest Marples, said that he did not accept the implication that authorities were in arrears. He considered that, in the light of the urgent need to concentrate on improvements and new construction, the standard of road maintenance over the country as a whole was satisfactory.

Kingsway Tunnel

Mr. Marples informed Mr. H. Hynd that the London County Council proposed to adapt the southern part of the Kingsway Tunnel as an underpass for light traffic between Waterloo Bridge and Kingsway. It was expected that the greatest advantage would be obtained by making the underpass one-way from the south to north. He hoped to include the scheme in the road programme at an early date.

Airport Terminal Building

Replying to Mr. Strauss, the Minister of Aviation, Mr. Duncan Sandys, said that it was not intended to rebuild the north terminal building at London Airport. There would be a new building at the centre and plans would be published very soon. Extensive additional car parking facilities would be provided in connection with the new building.

Orsett Hospital

When Mr. Delargy inquired on what date the improvement and extension of Orsett Hospital would begin, the Minister of Health, Mr. Derek Walker-Smith, in a written answer replied that the regional hospital board was preparing working drawings for stage I, but he could not yet say when building work would be started.

Unofficial Strikes

Mr. John Hall asked the Minister of Labour what estimate he had been able to make of the total number of working days lost in 1959, through stoppages not officially recognised by the trade unions concerned.

In a written answer, Mr Edward Heath said that during the year a total of 5,250,000 working days were lost through strikes of all kinds. Three and a half million days were lost in the official printing and printing ink disputes, and 100,000 in other disputes known to be official; of the remaining 1,650,000 days lost, the bulk were apparently due to unofficial strikes, but accurate information was not available owing to the difficulties of definition.

Road Expenditure

Mr. Marples was asked by Mr. Randall if he would state the comparative cost of highway repairs and building undertaken by local authorities in the years 1939, 1951 and 1959; and if he would give such comparisons in terms of uniform prices.

Replying, the Minister said that expenditure on highway works undertaken by local authorities in Great Britain, including work on trunk roads, was as follows:

£ millions

—	1938-39	1950-51	1958-59
Maintenance, repair and minor improvement			
Charged against local funds* ...	21.79	30.23	47.47
Payable from Government funds	10.62	19.91	33.35
Total	32.41	50.14	80.82
Major improvement and new construction			
Charged against local funds* ...	8.73	2.58	10.24
Payable from Government funds	9.37	3.90	31.17
Total	18.10	6.48	41.41

*Including expenditure from loans.

The purchasing power of the £ in 1950 was 49 per cent., and in 1958 it was 36 per cent. of that in 1938. He had no available means of comparing over this period the cost of the many different types of work involved in building and repairing highways.

M.1 (Anti-dazzle Screen)

Replying to Wing Commander Grant-Ferris, the Minister said that he had just received a report from the Road Research Laboratory on the experimental anti-dazzle screening along the centre of M.1. It apparently gave satisfactory protection from glare, but before deciding whether screening should be extended, he would have to consider other factors, including safety, amenity and cost.

Channel Tunnel

As the International Study Group's report on the Channel Tunnel project had only just been received, Mr. Marples declined to make any statement on the Government's policy. However, he informed Mr. Gower that the report envisaged two tunnels—one each way for railways—but not a roadway, the reason being the difficulty of ventilation.

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cate his works programme and valuable time could be wasted during progress by late nomination which might result in serious disruption of activities on the site. Early nomination was therefore essential.

Builder's Responsibility

Speaking of the responsibilities of the builder, Mr. Prosser said the builder had a responsibility to advise the architect—at least until such times as a common basis of training and education was introduced—on desirable improvements in methods of carrying out the work and on the principles of good construction. It would avoid a lot of heart burning and recriminations later if the architect readily accepted advice on construction detail which could avoid defects from faulty design revealing themselves after completion. It was not enough for the builder to say "I complied with your instruction" or "I could have told you that." The properly qualified builder was well able to give reliable advice on all principles of construction and he had a responsibility to place his expertise at the disposal of the team. Equally, the team had a responsibility to accept good advice given in the interest of the job and if time and expense could be saved as a result so much the better.

Mr. Prosser said the main responsibility of the builder was to see that everything was done to ensure a satisfactory completion of the project in accordance with the legitimate requirements of the client and the architect and in this sphere he had an immense amount to contribute to effective teamwork. "Accept him as a member of the team on these terms and see to it that his effort is adequately rewarded" he concluded.

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TACKLES ANY JOB

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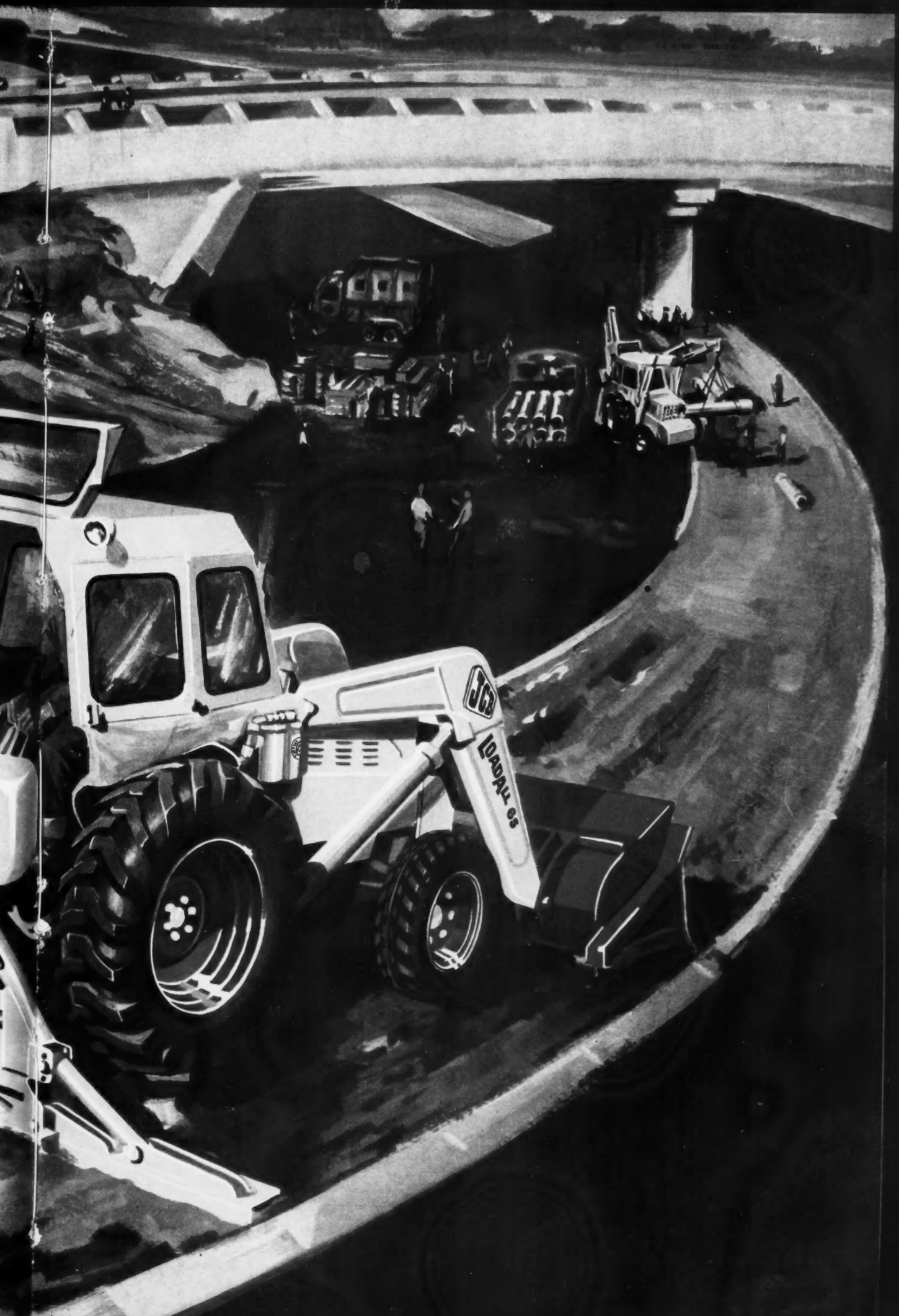
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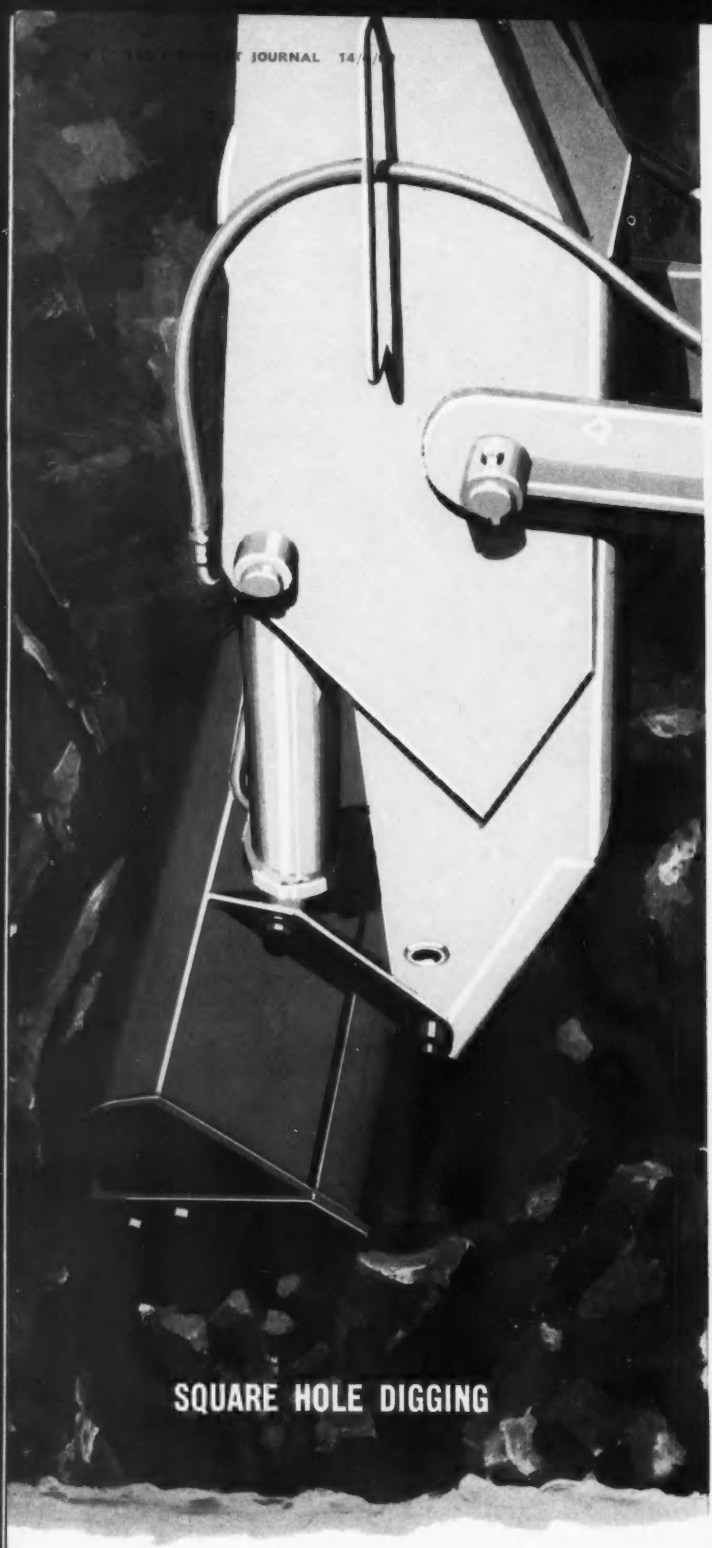

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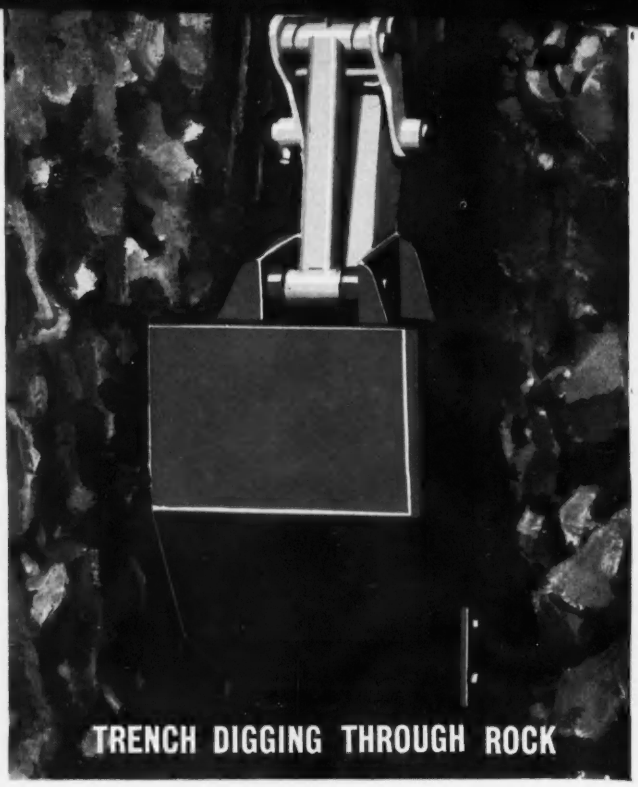

TRENCH DIGGING THROUGH ROCK

BUCKETS FOR EVERY JOB

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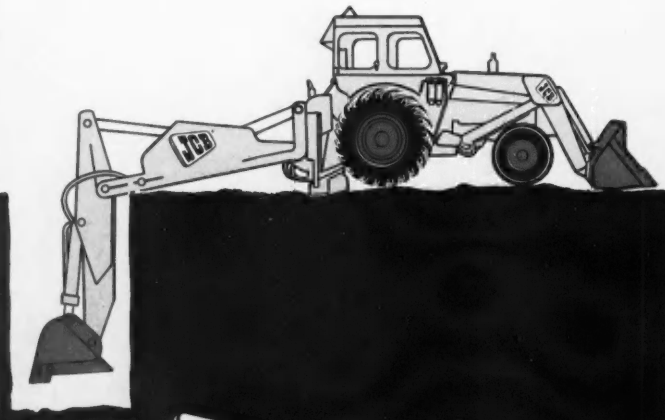

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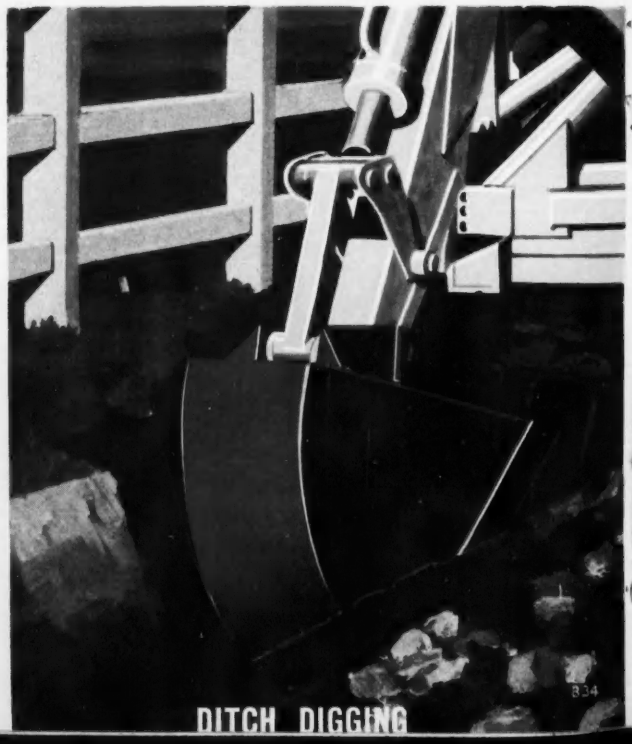

DITCH DIGGING

A LAWYER CONSIDERS . . .

Revisions to Form CCC/Wks/1.

EDITION nine of Form CCC/Wks/1 has now been published with certain amendments and revisions. There are also some omissions and these can be dealt with first.

The most important omission is the deletion of the fluctuations clause, 11 A-F and Appendices 1(A) and (B); this omission merely, of course, recognises declared Government policy to let contracts on a firm-price basis only. The other omitted clauses are 9A dealing with alterations, additions and omissions which was applicable only to War Office contracts; Clause 54 relating to M.P.s taking any benefit or share of the contract; Clause 60 setting out additional secrecy conditions; and the Costings Condition in Appendix 1 (C). The clauses remaining have not been renumbered to account for these omissions so familiar clauses still keep the same numbering they had in edition eight.

Clause 26 (2)

By this sub-clause in edition eight the contractor is responsible for any loss or damage to the works and all materials on the site for the purposes of the contract works no matter what the cause except (i) if the damage is due to one of the risks accepted by the authority, i.e., by Clause 1 (2)(h) the risk of fire, storm, tempest, flood, etc., and (ii) if the damage is due to the fault or neglect of a crown servant acting in the course of his duty.

In edition nine this sub-clause has been re-drafted but without substantial amendment. The general position as to damage to the works and materials on site is that set out above and the heavy responsibility so imposed should, of course, be fully insured, and suitable indemnities secured from sub-contractors. The Ministry of Works have not apparently dealt with the strange hiatus between this sub-clause and Clause 25. Under the sub-clause the Authority would appear to take over fire risk, etc., to the works and materials on site but if one looks at Clause 25 there is an obligation on the contractor to "take all reasonable precautions to prevent loss or damage" from any of the risks supposedly accepted by the Authority. While one appreciates that the Authority might like to impose a contractual duty on a contractor to take care to prevent loss or damage from fire, etc., and thus minimise the risk to the Authority does this not leave some residual liability on the contractor for risks he might imagine to have been accepted by the Authority? The point may not be of great importance but the authors of the Form do seem here to be encouraging double insurance in respect of fire, etc., risks, that is insurance by the Authority (who are of course usually their own insurers) and by the contractor to cover this residual risk. It is a pity this point was not clarified and the trap in Clause 26 (2), unless read in conjunction with Clause 25, remains; indeed the omission in the ninth edition of Clause 26 (2) of any reference back to Clause 25 makes it if anything easier to fall into this trap.

It may be noted that the Form leaves the onus of proof on the contractor if he disputes liability under this clause on the ground that the damage was due to the fault of a crown servant. This may well prove difficult to do and the claiming of privilege for certain Government department documents, about which there has been certain adverse comment recently, would not assist a contractor in preparing his case.

Clause 29—Liquidated Damages

In the first paragraph of the existing clause the liquidated damages payable by the contractor for delay in completion are stated to be those payable in respect of "the loss or damage sustained *by the Authority* by reason of such delay in completion." In edition nine the words in italics are omitted. In so far as any person other than the Authority could have a claim under the contract against the contractor for damages for delay in completion the omission of the italicised words would seem now to preclude such claim.

Clauses 31 and 38—Sub-contractors

Clause 31 makes the contractor responsible for any sub-contractor, whether selected by himself or nominated by the Authority, and the re-drafted clause now makes this obligation clearer, particularly in sub-clause 3 which reads "The Contractor shall make good any loss or expense incurred by the Authority by reason of any default or failure, whether total or partial, on the part of any sub-contractor." Clause 38, dealing with Prime Cost items, remains the same except for a deletion consequential upon the deletion of the fluctuations clause.

It would seem to show a lack of appreciation by the authors of the Form of the practical, though not the legal difference, between sub-contractors employed by the contractor and those nominated by the Authority, that they have not seen fit to differentiate between these two classes of sub-contractors. While all contractors would accept responsibility for sub-contractors of their own choosing it seems a little onerous to expect them to accept equal responsibility for sub-contractors whom they have not chosen. What if the nominated sub-contractor delays completion of the main contract works? There is no extension of time under Clause 28 for such default by a nominated sub-contractor. What if the nominated sub-contractor goes bankrupt or into compulsory liquidation? The extra cost in these circumstances of fulfilling the main contract has to be borne by the contractor. He can, for what it may be worth, sue the sub-contractor concerned for delay or put in a claim in the bankruptcy or liquidation. But, and especially in the latter case, these remedies mean, firstly, that the Authority get out of taking any real responsibility for nominating, and, secondly, that the contractor, even if he recovers anything from the sub-contractor or his trustee or liquidator (who are almost bound to dispute the claim), is kept out of his money for a considerable time through no fault of his own. It is a pity that the more sensible, though far from ideal, provisions of the industry's own standard forms on nominated sub-contractors should appear to be unacceptable to Government departments.

The right given in Clause 31 (1) to the contractor to make a reasonable objection to any nominee of the Authority as a sub-contractor might appear to cut down the risk of a contractor being obliged to employ an unsatisfactory nominated sub-contractor. But, in the case of sub-contractors unknown except by name, what objection can the main contractor put forward? It is precisely this fact, namely the contractor's possibly complete ignorance of the sub-contractor whom he is compelled to work with, which should make the Authority take more responsibility than at present for its nominated sub-contractors.

Clause 41—Payments on and after Completion

The revised clause is better drafted than in edition eight and now includes a specific provision concerning the recovery of overpayments by the Authority if such are revealed by the agreed Final Sum.

Clause 42—Certificates

The words "after retaining the reserve" have been deleted from the first sentence which merely provides now that the S.O. shall certify the sums due under Clauses 40 and 41. As these sums are clearly, by Clause 40, subject to a reserve the deletion in this clause seems to be a purely drafting amendment designed to omit unnecessary words.

Clause 47—Injury to Persons: Loss of Property

This important clause, one of the least comprehensible in edition eight, has now been revised fairly extensively. It deals with damage to persons and property arising out of the execution of the works other than the damage covered by Clause 26, i.e., damage to the works and materials on site. For this kind of damage Clause 47 appears to provide that the contractor is to be responsible unless he can show that the damage was "not caused or contributed to by his servants, agents or sub-contractors." If the property damaged is crown property then the contractor must make the damage good. If the crown or one of its servants is sued for any damage to property or persons for which the contractor is responsible under this clause, the contractor must indemnify the crown. If the property damaged belongs to a crown servant or a crown servant is injured and under some "Government provision" a payment to that crown servant is made by his department or other crown agent, the contractor must indemnify the crown; a "Government provision" is defined as a provision, *inter alia*, for payments to, or for the benefit of, crown servants during or in respect of injury or death. In regard to the liability to indemnify the crown or its servants against claims for which the crown or its servants have been sued, the new clause does concede that this indemnity shall not exceed what the claimant against the crown would reasonably expect to recover in a court of law; the contractor is thus protected against extravagant *ex gratia* settlements by the crown or its servants in these circumstances. This provision does not, however, apply to the indemnity in respect of payments to crown servants by the crown in respect of damage or injury for which the contractor is liable under this clause.

It is important that contractors who work under this form should so inform their insurers and ascertain that full cover in respects of risks assumed, and indemnities given, under this clause is obtained. To take a possible illustration of the risk involved. A sub-contractor's workman negligently injures X, a crown servant—one of the Authority's assistant engineers perhaps; under some "Government provision" in regard to his service with the crown X is paid a certain sum during his absence from work; the main contractor will be called upon to indemnify the crown in respect of this payment to X. The main contractor will of course seek to recover from the sub-contractor who is primarily responsible. However, the amount legally recoverable from the sub-contractor in these circumstances might well be limited to the actual damage suffered by the crown servant, X; as X has received money from the crown this reduces the damage he has suffered and may well reduce the amount of the sub-contractor's legal liability. The main contractor might thus be left paying more under his contractual indemnity to the crown than he can obtain back from the party at fault, i.e., the sub-contractor. The need, therefore, to get these indemnities adequately underwritten is clear, either by taking out appropriate insurance himself or by securing appropriate and adequately underwritten indemnities from his sub-contractors.

A further difficulty on this clause arises where work is being carried out in an existing crown building or close to a crown building which may both contain priceless

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WORK BEGUN ON NEW £3M. PASSENGER-HANDLING BUILDING AT LONDON AIRPORT

TO meet the anticipated expansion in air travel, large new terminal buildings for long-distance passengers are to be built at London Airport at a cost of about £3m. Announcing this last week, the Minister of Aviation, Mr. Duncan Sandys, said that the first part would be ready for occupation by B.O.A.C. during the second half of next year and the remainder was to be completed in 1962.

Situated on the south-east face of the airport's central area, the buildings will replace existing temporary buildings. A start has already been made and Gilbert-Ash, Ltd. are proceeding with foundation work. The superstructure will be erected by Taylor Woodrow Construction, Ltd.

Frederick Gibberd, C.B.E., F.R.I.B.A., who was responsible for the architecture of the existing central area buildings, has designed the new buildings which have passed the scrutiny of the Royal Fine Art Commission. Rectangular in shape, they include glazed galleries, cast stone facia, dome roof lights and curving ventilation outlets.

Basically the design consists of a passenger building, 430ft. by 280ft. with office blocks, each 411ft. by 55ft. on both sides. These are arranged to enclose a rectangular forecourt, which provides a parking area, bounded by roads giving access to the buildings and connecting them to the internal road systems serving the central area and the access tunnel.

The passenger building is on two floors. The first floor forms the concourse and arrival and departure lounges and has open spaces above the departure and arrival halls and the entrance hall on the ground floor.

Access to the forecourt is provided from the entrance hall, which has two large square shafts housing essential services. Beyond it are the departure and arrival halls, and beyond these the plant rooms and baggage-handling areas.

The three-storey office blocks will provide for the operating companies' requirements and for the main restaurant, for which there is no room in the passenger building.

The buildings have been arranged round the forecourt to give maximum frontage. To provide protection for passengers arriving by bus and coach, and for those passing from one entrance to another, there will be a covered way on three sides of the forecourt. Along the office blocks this is achieved by the outward extension of the upper floors on cantilevers, and in front of the passenger building by a canopy. Along the outer faces of the buildings there will be the galleries, with bridges to link the three buildings; these form part of the passenger circulation system and lead to the aircraft stands.

Mr. Frederick Gibberd shows the Minister of Aviation, Mr. Duncan Sandys, a model of the new buildings

The main public restaurant will be on the second floor of the south office block; it will overlook the aprons on which the aircraft stand and give customers a fine view of the airport. The restaurant and its bar are entered from a large foyer, which can be reached by a communicating bridge from the passenger building.

A smaller restaurant, comprising counters and tables, will serve quick and informal meals on the southern side of the first floor. Next to it will be a bar, and in the departure lounge there will be another bar. In the entrance hall on the ground floor, there will be banks, counters for post and cable offices, car hire firms, and facilities for theatre and hotel bookings. Various types of shops will be provided, both in the entrance hall and in the concourse.

The roof of the passenger building has been designed with a simple and light unencased structural steel frame, with stanchions on a 60ft. grid. The roof will be a waterproof metal decking on deep trusses.

Light will be provided through a wide area of the roof by rectangular dome lights. The external faces of the building will be 5ft. forward from the structural steel frame and will be formed with 10ft. deep aluminium vertical members on a 10ft. spacing from facia to ground level. Between the vertical members there will be windows and infill panels.

The building will be sealed as a protection against external noises and fumes with provision for double glazing, except those exterior surfaces that do not face aircraft stands. Artificial and filtered ventilation will be provided on an inlet and extract basis operated from plant rooms on the roof. The heating will be by floor panels in the large public areas, with ceiling heating in offices.

The office blocks, which differ in character and function from the passenger block, will be constructed with a reinforced concrete frame with precast concrete floor units. The ground floor will be recessed and formed with brickwork. Offices will be separated by removable partitions with aluminium framing.

The Director General of Works, Air Ministry, is responsible for construction and the consulting engineers are Sir William Halcrow and Partners and G. H. Buckle and Partners.

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property and damage to which could involve the contractor in heavy liability. Where non-Government property is concerned the contractor or his insurers can usually find out the value of the building where work is to be carried out or of adjacent buildings. Indeed, if the work is in an existing building, the extra risk of fire would normally, and most cheaply, be covered by the building owner and the parties can work out the most economical way of covering against the other risks. In Government property, however, the crown is usually its own insurer and the contractor should therefore, when working in an existing crown building insure *all* risks of damage to the building arising out of the works due to the negligence of those for whom he is responsible under this clause, for any fire resulting might not be one for which the crown would accept responsibility; it must be remembered that while fire is one of the risks accepted by the Authority it is only accepted in respect of the works and material on site which are so defined in Clause 1 that they would not include the remainder of an existing crown building.

In regard to damage to crown buildings adjacent to the site the chief difficulty lies in knowing for what amount cover should be taken out against the Clause 47 risk; working near an atomic plant, a new telephone exchange with expensive equipment, or near to a crown art gallery—who is to say what the extent of the risk really is? So far as the writer is aware no crown department issues up-to-date valuations of its property on which the risk to be covered could be calculated. It might be desirable for the limits of such risks assumed under Clause 47 to be defined in relation to crown buildings so that there can be no doubt whether a contractor's insurance cover is adequate; there would be a definite limit and the contractor would have to insure the risk to that limit.

Clauses 56, 58 and 59—Security Conditions

These clauses have been amended. No one of course disputes the need in certain Government contracts for stringent security conditions being imposed. The revised Clause 56, however, imposes a heavy duty on the contractor who must, if so directed by the S.O., furnish a list of names and addresses of all persons who are or may be at any time concerned with the works and give "such other particulars" as the S.O. may reasonably require. Moreover, any decision as to whether the contractor has given the "other particulars" or taken the steps required of him to comply with the clause is not arbitrable and the Authority's decision is final.

One could imagine the grave problems resulting if the S.O. requests details concerning certain of the contractor's labour force and the contractor, after making reasonable inquiries, fails to inform the S.O. that Y is a communist or an I.R.A. member and damage is caused by one of these trouble-makers. No doubt these security precautions will be interpreted reasonably in practice but their stringency should be noted; operatives for jobs where such precautions are needed must be carefully selected and some provision made in pricing for the administrative inconvenience which these security provisions may cause.

RENEWAL OF WALLASEY FERRY TERMINAL

New Bridge Replaces 60-year-old Structure

The Mammoth crane being tackled to the South Bridge at New Brighton. The old North Bridge can also be seen in the photograph

THE completion of a scheme to renew the 19th-century New Brighton Ferry Terminal was marked last week by the opening of the new north passenger bridge for Wallasey Borough Council.

Work commenced last September, with the removal and reconstruction of the south passenger bridge, and this was carried out with the aid of the Mersey Dock and Harbour Board's floating crane, "Mammoth."

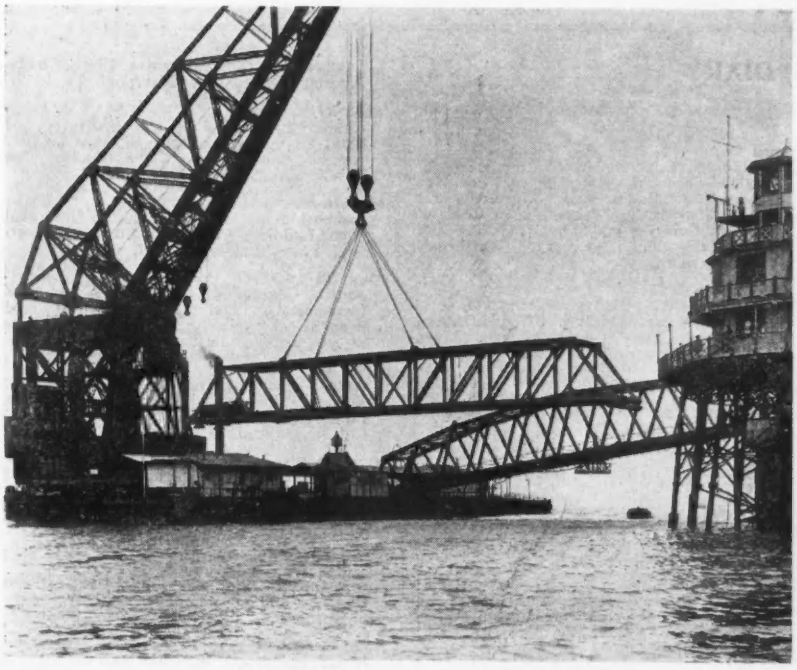
The south bridge was to be lifted from its position and taken up the Mersey by barge to docks, where it would be repaired. Two factors made the operation of lifting the 178ft. long structure extremely hazardous.

Because the bridge could not be slung at is centre, a careful mathematical calculation had to be worked out beforehand to determine the balance weights required to be placed on the shorter end of the 130-ton bridge so that it could be lifted horizontally.

In addition, there was only an inch of space to spare between the river end of the bridge and the roof of the shelter on the landing stage, and it required very careful manoeuvring to lift the bridge clear.

It took exactly 1½ hours for the south bridge to be hoisted high in the air and swung slowly over the top of its twin, the old north bridge, and across the stage, to be lowered on to the barge which was moored in position to receive it. The barge was then towed up-river by tugs to Birkenhead Docks, and berthed finally at Poulton Quay.

Here, the bridge was unloaded by the "Mammoth" and extensive repair work was carried out. The extent of the work included strengthening of the main members, renewal of the bearings and timber decking, new steel and timber flaps for the shore and stage end and the provision of a movable painter's cradle slung under the decking. The bridge was then transported back to the ferry terminal and repositioned, at which point construction of a reinforced concrete bearing pad was carried out at the pierhead, with erection and grouting-up of the fixed portions of the bridge bearings, and modifications to the decking.



The new North Bridge being moved into position

New North Bridge

There was a considerable disparity between the ages of the twin bridges, the south bridge being 26 years old and the north one about 60 years old. For this reason, the north structure did not lend itself to reconstruction, but had to be completely replaced.

Generally, the new bridge, which is built up by H-section welded main chords, is designed to take berthing loads from ferry vessels and wave action from the landing stage, as well as torsional stresses induced by pitching from the stage.

The bridge is hinged at the pier end

for both horizontal and vertical angular movement. At the landing stage end, side bearing sliding in steel trays, welded on to the existing steelwork, are secured fore and aft by a system of rope and chain checks, adjusted to give a maximum sliding movement of about 2ft.

As the bridge also acts as a boom, the requirement was for an exceptionally heavy structure. All vertical and diagonal web members are R.S.J., only two sizes being used for the whole of the main web members. These sizes are 12in. by 8in. by 65lb. per ft. and 12in. by 6in. by 44lb. per ft. Main connections are made with high-strength friction-grip bolts, contact surfaces being left unpainted.

The use of only two sizes of members resulted in a slightly heavier bridge than originally called for by the design, but enabled the contractors to obtain all the web members from one mill rolling. The lack of variance which this gave to the steel allowed the making of good tight joints.

Two things were borne in mind during the design—the elimination of small sections in the fabrication, to act as a check against corrosion; and the easy maintenance of the bridge when in position. This latter requirement was achieved by installing as part of the structure a painter's cradle. Underneath the bridge as a permanent fixture, the cradle also acts as an inspection platform for the pier bearings. Off-centre lifting eyes were also provided in the design.

Due to a tidal range in the Mersey of 30ft., the bridge position varies from horizontal to a slope of 1:5. The new fixing to the reinforced concrete bearing pad at the pierhead has resulted in the landing stage itself being moved 2ft. 6in. farther out into the river.

North Bridge Positioning

Immediately following the repositioning of the south bridge, the old north bridge was prepared for demolition. The decking was burnt out using oxy-acetylene cutters, and the two main girders were lifted out by the crane and transported to Poulton Quay, where the girders were cut up for disposal.

Meanwhile, fabrication of the new structure was taking place at Poulton Quay, where the bridge, about 160ft. long, 18ft. wide, and weighing 120 tons, was completely assembled, grit blasted and painted, before despatch. This assembly work was completed in seven days, and test loads were applied to measure deflection.

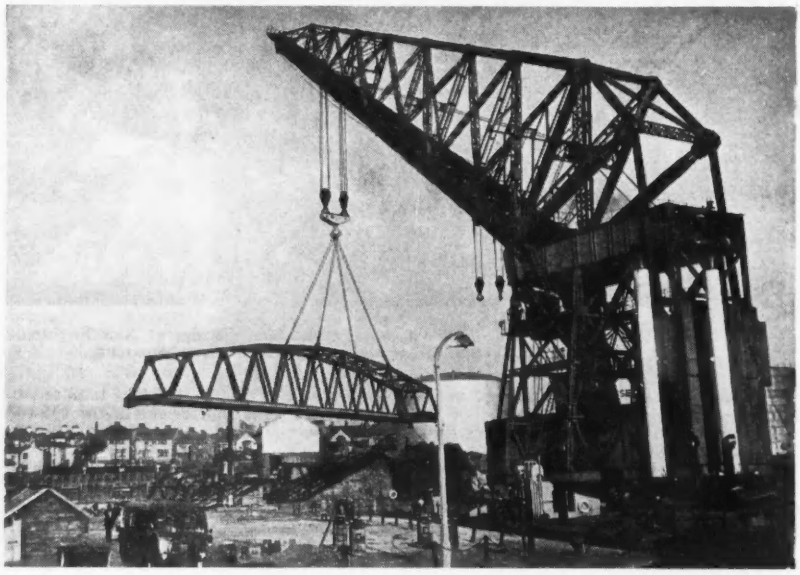
Following loading of the bridge on to the barge and towing to the New Brighton terminal, final lifting operations commenced

Four 100ft. wire rope slings were attached to the off-centre lifting points, and the bridge was lifted and moved into position over the pier bearings, where it was slowly lowered into its final position. The operation commenced at about 8 a.m., and was completed by 11.30 a.m.

After positioning of each bridge, the timber decking was laid followed by a bitumastic deck covering. Steel and timber hinged flaps were fixed at the shore and stage ends of each bridge, and the two painter's cradles were attached to the runways provided underneath the decking.

Consultants and Contractors

The consulting engineers for the renewal of the ferry terminal were Wilton and Bell, Roman House, London Wall, London, E.C.2. The Butterley Co., Ltd., Butterley, Derbys., were the main contractors.



The South Bridge being unloaded at Poulton Quay

I.E.S. SUMMER MEETING AT HARROGATE

The Illuminating Engineering Society is holding its biennial Summer Meeting this year at Harrogate from May 15 to 18.

The programme includes a number of changes, the chief of which is the reduction of the number of formal papers to three and the devotion of one day to the study and discussion of technical subjects of topical interest.

The three papers are: "Progress in the Field of Electric Lamps," by H. G. Jenkins (Research Laboratories, The General Electric Co., Ltd.); "Rationally Recommended Illumination Levels," by H. C. Weston; "Plastics, Yesterday, Today and Tomorrow," by C. L. Child (Plastics Division, Imperial Chemical Industries, Ltd.).

Attendance at the meeting is not confined to I.E.S. members and details of the meeting can be obtained from the Secretary, I.E.S., 32 Victoria Street, London, S.W.1.

FOR THE DIARY

April 20.
Royal Institution of Chartered Surveyors. 12 Great George Street, London, S.W.1. Quantity Surveyors' General Meeting at 6 p.m. Discussion: "Techniques in Quantity Surveyors' Offices."

April 20.
Annual General Meeting of the London Building and Engineering Contractors Accident Prevention Group at the Industrial Health and Safety Centre, 97 Horseferry Road, London, S.W.1, at 2.30 p.m.

April 21.
Annual dinner of the Institution of Civil Engineers, Dorchester Hotel, London. 7.30 p.m.

April 22.
L.M.B.A. lunch to Lord Mayor of London at Savoy Hotel, London.

April 22.
Meeting of the Contractors Mechanical Plant Engineers (Midland Branch) at the Imperial Hotel, Temple Street, Birmingham, at 7.30 p.m. Paper by O. Lawrence, technical director, Joseph Lucas (Turbines), Ltd.

April 25.
First International Compressed Air and Hydraulics Exhibition, Empire Hall Olympia, London. April 25-29.

April 26.
Meeting of the Institution of Civil Engineers at Great George Street, London. S.W.1. at 5.30 p.m. "Design, Fabrication and Erection of the Ganga Bridge," by S. G. Savarkar, S. Turley, J. Williams and R. J. C. Tweed.

April 29.
Reinforced Concrete Association (West of England Branch). Meeting at the New School of Engineering, University of Bristol at 6 p.m. "Precasting in Concrete Framed Construction," by J. F. Greinig, A.M.I.C.E., and R. C. Westbrook, A.M.I. Struct.E.

April 27-28.
Civil engineering safety training course at the Merseyside Building Safety Training Centre, Stopgate Lane, Aintree, Liverpool, 9.

April 27.
Annual luncheon of the Federation of Construction Machinery Importers, Dorchester Hotel, London. 1 p.m.

May 3-13.
Mechanical Handling Exhibition, Earls Court, London.

May 3.
Symposium on London/Birmingham Motorway at the Institution of Civil Engineers, Great George Street, London, S.W.1. at 2.30. p.m.

Annual General Meeting of the Royal Institute of British Architects at 66 Portland Place, London, S.W.1, at 6 p.m.

May 4.
Annual general meeting of the North West Branch of Contractors Mechanical Plant Engineers, Kirkby Executive Club, Kirkby Trading Estate, near Liverpool.

May 4.
Annual conference of the Institution of Plant Engineers, Scarborough, May 4-6.
Annual conference of the Institute of Purification, Scarborough, June 21-24.

May 18-19.
Symposium on "Problems in the Design of High Buildings" at the R.I.B.A., 66 Portland Place, London, S.W.1.

May 20.
Annual General Meeting of the Contractors Mechanical Plant Engineers (Midland Branch) at the Imperial Hotel, Temple Street, Birmingham, at 7.30 p.m.

June 4.
Annual General Meeting of the North Western Educational Association for the Building Industry at Peel Park Technical College, Salford, 5, at 11 a.m.

June 30-July 3.
Sand and Gravel Association of Great Britain. Short Course on "The Production and Technology of Sand and Gravel Aggregates," at the Imperial College of Science and Technology, South Kensington.

July 20-24.
Institution of Municipal Engineers. Northern Districts Summer School at the University of Sheffield.

Aug. 30-Sept. 3.
Royal Institution of Chartered Surveyors. Annual Conference at the University College of North Wales, Bangor.

UNDERWATER CONCRETE AT ANGLE BAY

From a Correspondent

BRITISH PETROLEUM'S Angle Bay project on the south side of Milford Haven in Pembrokeshire, will be the second of the company's deep water terminals capable of accommodating tankers of over 40,000 tons—the first terminal being completed at Finnart in Scotland (*The Contract Journal,* April 10, 1958).

The project consists of a jetty of precast, post-tensioned concrete construction with mass concrete berthing head dolphins, marine terminal facilities, bunkering tanks, a balancing tank farm and a 60-mile pipeline of 18in. dia. with a yearly capacity of 5,000,000 tons to transport the crude oil to the refinery at Llandarcy.

The particularly favourable nature of the haven as a deep water terminal is borne out by Esso Petroleum's jetty and refinery which is also under construction on the north side of the Haven. Construction of such jetties is rated as one of the most difficult civil engineering problems which exist today, due to the depth of water in which the work must be carried out, the difficulty of land access in the early stages and the problems of materials handling which arise.

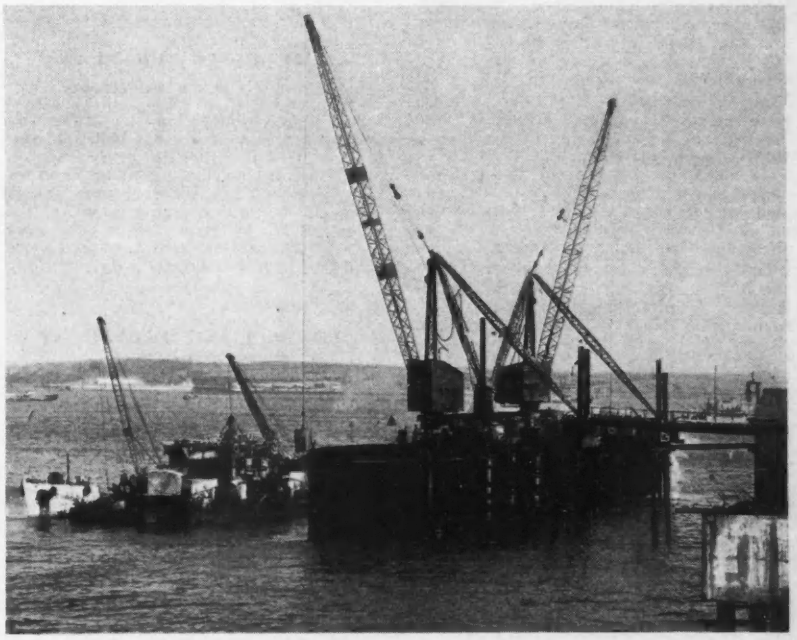
At Angle Bay this applies particularly to such heavy lifts involved as in the handling of the 15-ton precast beam units for the jetty and the 12-ton fender units. Other problems include the degree of accuracy with which piling must be placed and the provision necessary for pouring large volumes of concrete in the construction of the berthing head dolphins, the work being constantly subject to variations in weather conditions ranging from calm to full gale.

Pier and Trunk-way

The jetty consists of a pier or shorearm of 1,350ft. length, and a trunk-way of 2,500ft. length overall with outer mooring dolphins. This trunk-way accommodates 11 substantial dolphins along its length—five of these being located along the main 1,200ft. central portion which carries the pipelines and a further six on two walkways which project from each end of the trunk-way. The jetty carries a road which is 16ft. wide on the shorearm and trunk-way and a pipe track which is 32ft. wide on the shorearm and 26ft. wide on the trunk-way.

The shorearm is constructed of three rows of South Durham "Rendhex" hexagonal steel box piles which support precast concrete beams, the maximum pile length being 110ft. at the seaward end. These were driven by a steam operated B.S.P. single-acting hammer suspended from a 10-ton Scotch derrick equipped with a special cradle for accommodating the hammer. The piles are capped by muffs prior to the placing of the cross beams and the precast road slabs. The joints are concreted with a special 8,000lb. ultimate strength concrete which is hammered with a Consolidated Pneumatic type CP9 drill.

To accommodate movement due to linear thermal expansion of the pipes, rollers are provided on top of the beams in the pipe track and the pipes have expansion bends at the end of the jetty. To give the necessary degree of strength to the jetty to resist forces due to wind, traffic, etc., raking piles are located at 150ft. intervals.



Concreting operations in progress

All the precast units for the shorearm and trunk-way are produced in a precasting yard on shore, equipped with two electrically operated gantries for handling the units. Transportation down to the arms is by means of special bogies towed by Fordson major tractors and a further gantry is employed for handling the units into position.

The trunk-way in which the shorearm terminates is carried on two lines of hexagonal piles of larger cross section than the shorearm, the construction being, however, similar. MacAlloy high tensile steel stressing bars are used in both the shorearm and trunk-way to stress the road slabs transversely and to join the road slabs and the beams longitudinally.

The bars are 1¼in. in dia. and are stressed to 42 tons corresponding to 0.75in. extension on a 16ft. 6in. bar.

Berthing Heads

The main feature of the jetty is the two pairs of mass concrete berthing head dolphins which are being constructed to take the forces which will arise during the berthing of the tankers and which will enable two tankers of up to some 100,000 tons to discharge at the same time. Located in the centre of each berthing island is a hose handling platform, this occupying the space between the two berthing head dolphins of each island.

Features of the berthing head dolphins are their size—each one uses some 8,000 cu. yd. of concrete and the depth of the foundations required, at one point these being 65ft. below low water. The minimum depth provided at the two berths is 54ft.

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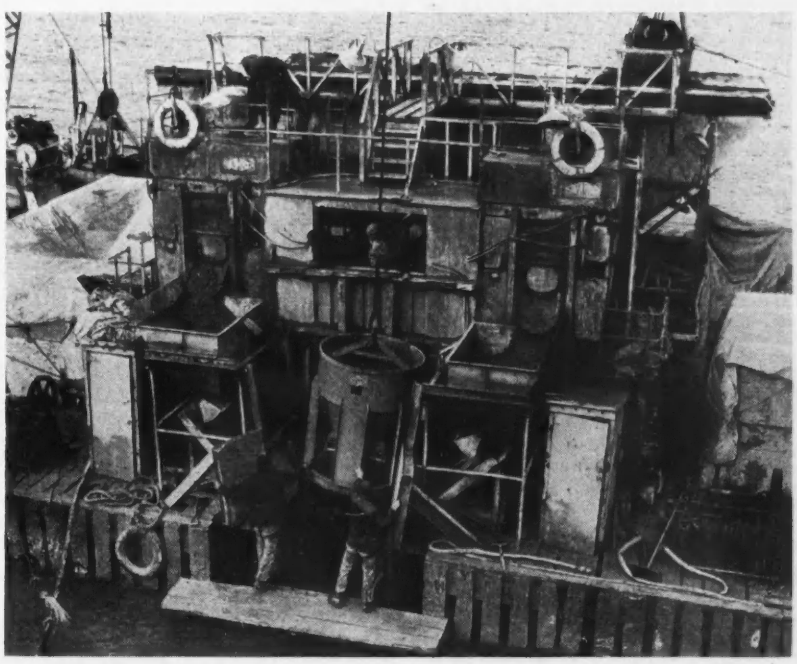

Handling a 2 cu. yd. roller gate bucket at the pontoon-mounted weighbatching plant

LOCAL AUTHORITIES AND CONTRACTORS

THE importance of good relationships between local authorities and civil engineering contractors was stressed by Mr. J. H. H. Wilkes, Somerset county surveyor, when he spoke last week at the annual luncheon of the South-Western Section of the Federation of Civil Engineering Contractors.

Replying, Mr. J. Maurice Laing, chairman of the Federation, referred to the vast programme of capital works costing over £500m. per annum which were handled by local authorities. He said competition for smaller and medium sized water supply and sewerage schemes was extremely keen, and that there was never likely to be a better time for local authorities to put such schemes out to tender.

Mr. Laing quoted some figures underlying the surplus capacity in the civil engineering industry. He pointed out that in 1959, whereas the order load for building work such as new housing, shops and offices, had increased by £125m., the order load for other types of new work, which included all the various civil engineering operations, had fallen by £64m.

Other speakers at the luncheon were Mr. B. E. Ireland, chairman of the South-Western Section, and Councillor G. A. Parrott, the Mayor of Weston-super-Mare.

C.E.G.B. CONTRACT FOR MITCHELL'S

The Mitchell Construction Company, Peterborough, have been awarded a contract by the Central Electricity Generating Board for the building of the superstructure for the main and ancillary buildings and for the turbo-alternator blocks at the new Blyth "B" Power Station, Northumberland.

The value of the contract is approximately £½m. and work will commence in June of this year. The consulting engineers are Merz and McLellan.

L.M.B.A. TECHNICAL FILM SHOW

The latest technical film show of the London Master Builders Association was held last week at the Royal Commonwealth Society Hall. Among the audience were the president, Mr. E. J. Cook, and Dr. C. A. Hart, the director-designate.

The films included two from the Building Research Station on house foundations and the new "V" brick; accident prevention in New Zealand; and the construction of the Alcoa aluminium building in Pittsburgh which was described in *The Contract Journal,* January 14, 1954.

Another film dealt with Siporex, the Swedish lightweight material now being produced by Costain Concrete Co., Ltd., Newarthill, Lanarkshire, who have been granted the sole manufacturing rights in the United Kingdom.

"DRY ROT IN WOOD"

A new edition of the Forest Products Research Laboratory's "Dry Rot in Wood" has been published for D.S.I.R. by H.M.S.O. price 4s. (72 cents U.S.A.) 4s. 3d. by post.

The most important changes relate to the difficult problem of eradicating the true dry rot fungus *Merulius Lacrymans* from infected brickwork and masonry. It has now been established that the chemicals sodium pentachlorophenate and sodium orthophenylphenate are much more effective for this purpose than sodium fluoride and magnesium silico-fluoride, which have been commonly used in the past.

The text has been revised and brought up to date. It includes, as in the previous edition, sections dealing with recognition of fungi, detection and eradication of the decay which they cause, and precautions to be taken when using timber in new buildings.

£1M. QUEENSFERRY BRIDGE AND BY-PASS

Tenders Invited

AS officially announced on page 191 Flintshire County Council are inviting tenders for the construction of 1.7 miles of new dual carriageway, the improvement of existing carriageway, between Drom Corner, Sealand, and Queensferry, and the construction of a 410ft. three-span bridge over the River Dee. The estimated cost is over £1m.

Flintshire county surveyor and bridgemaster is Mr. E. W. W. Richards, A.M.I.C.E., A.M.I.Struct.E., A.M.I.Mun.E.

£11M. RESERVOIR PLAN

Minister Calls a Conference

Mr. Henry Brooke, Minister of Housing and Local Government, has called a conference of local authorities at Swansea on May 4 to discuss a proposal to build an £11m. reservoir in the Gwendraeth Valley, Carmarthenshire, to provide water for industries in Swansea, Neath and Port Talbot. The scheme provides for a gross yield of 55,000,000 gallons a day.

1,500-DWELLING ESTATE AT FARNBOROUGH

A site of about 170 acres at Farnborough, Hants, formerly part of Oak Farm, has been purchased by Daniel T. Jackson, Ltd., contractors.

It is proposed to develop the site by the erection of about 1,500 dwellings, for sale at between £2,700 and £3,500. These will include detached and semi-detached houses, bungalows, flats and maisonnettes, and there is provision for shops, surgeries, etc. Work is expected to begin in the autumn.

ORGANISATION OF FOREMANSHIP COURSES

At a recent meeting of the North Western Educational Association for the Building Industry, Mr. S. J. Dobson addressed the members on "The Organisation of Building Foremanship Courses."

Mr. Dobson, who is the responsible lecturer for these courses at The College of Building, Liverpool, gave a résumé of the development of the courses and the parallel ones for clerks of works. He pointed out the difficulties of getting the right people on to the courses—the experienced foremen were too busy and the inexperienced had really not sufficient background to benefit.

The talk, which was held in the new buildings of the Widnes College of Further Education, was followed by a visit to the Runcorn/Widnes Bridge and approach road projects under the auspices of Leonard Fairclough, Ltd.

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four-storey arts building at Cathays Park, Cardiff, with J. Gerrard and Sons, Ltd., Swinton, Lancs. Sir Percy Thomas and Son, Cardiff, are the architects, and the quantity surveyors are W. T. Hills and Co., Cardiff. The cost is estimated at £254,000.

BLACKBURN SEWAGE DISPOSAL.—Blackburn Borough Council have been recommended to accept the £487,383 tender of B. B. Kirk and Co., Ltd., Keighley Road, Skipton, for contract 1 of the new sewage disposal works.

RUNCORN APPROACH ROAD.—Work has commenced on the 2½-mile long, 60ft. wide Runcorn Spur, the southern approach road to the Runcorn-Widnes bridge. Leonard Fairclough, Ltd., Adlington Lancs., the contractors for the bridge, have had their contract extended by Cheshire County Council to cover construction of the Spur, which will cost about £600,000.

Late Construction News

WATES DWELLINGS CONTRACT.—A contract worth £403,458 has been negotiated with Wates, Ltd., 1258 London Road, London, S.W.16, by Walsall B.C. for redevelopment of the Orlando Street area. The scheme comprises 128 flats in four eight-storey blocks, 10 flats in a three-storey block, 20 houses in two three-storey blocks and 11 houses in two two-storey blocks, 158 storerooms and 39 garages.

NEWPORT WATERWORKS. — Subject to Ministry approval, Newport (Mon.) B.C. have accepted the £396,390 tender of The Permutit Co., Ltd., Gunnersbury Way, London, W.4, for the construction of the Court Farm water treatment works and the supply and installation of plant.

FLATS AT CRAWLEY.—Crawley Development Corporation have been recommended to accept the tender of G. T. Crouch, Ltd., Kingston-upon-Thames, at £274,782, for building 99 flats at Deerswood, Ifield.

FARNBOROUGH DEVELOPMENT. — Taylor Woodrow Construction, Ltd. have been awarded a £350,000 contract by the Solartron Electronic Group, Ltd., for a five-storey office block and single-storey factory extension at Farnborough, Hants. This is the second stage of a planned four-stage, £1½m. expansion on a 15-acre site. The architects are Raglan Squire and Partners, Hobart Place, London, S.W.1.

PORTSMOUTH COLLEGE EXTENSION.—Phase II of extensions to Portsmouth Training College, consisting of a new teaching block, boiler house and stack, and modifications to the existing teaching block will cost £137,510. The City Council have placed the contract with John Hunt, Ltd., Cleveland Road, Gosport.

AIR TERMINAL BUILDINGS.—The City of Manchester Airport Committee are inviting tenders for the erection of new terminal buildings at Ringway Airport. The contract will cover the construction of a traffic and baggage wing, concourse, customs and restaurant wing, and flight piers, etc. The city architect is Leonard C. Howitt.

BASILDON HOUSING CONTRACT.—Leslie and Co., Ltd., 20 Peel Street, London, W.8, will start work soon on the erection of 306 dwellings at Vange housing area, for Basildon Development Corporation. The contract is valued at about £570,000. Plans are by William Crabtree, 8 Robert Adam Street, London, W.1, and quantities by E. C. Harris and Partners, Lynton House, Tavistock Square, London, W.C.1.

CITY BANK CONTRACT.—The contractors for a new £1m. Midland Bank at the corner of Gracechurch Street and Fenchurch Street, London, E.C.3, are Taylor Woodrow Construction, Ltd., Southall, Middx. Whinney, Son and Austen Hall, 37 Norfolk Street, W.C.2, are the architects; Frederick S. Snow and Partners, London, S.E.1, the consulting engineers, and Reynolds and Young, London, W.C.1, the quantity surveyors.

OFFICES ON CINEMA SITE.—A four-storey block of offices and shops will be erected as headquarters for themselves by Y. J. Lovell and Son, Ltd., London, W.C.1, on the site of the Classic Cinema, King Street, Hammersmith. The cost is estimated at £350,000.

MIDDLESBROUGH POLICE STATION.—Subject to Home Office approval, the £253,053 tender of A. Monk and Co., Ltd., Warrington and Middlesbrough, has been accepted by Middlesbrough B.C. for the erection of new police headquarters at Grange Road and Dunning Street.

£1M. PERU DOCK.—Work has just started on the construction of a £1m. dock at Salaverry, north-west Peru, for which the contractors are George Wimpey and Co., Ltd., London, W.6. The scheme is an extension of their £6m. contract for the new Port Salaverry harbour.

CARDIFF ARTS BUILDING.—The Council of the University College of South Wales and Monmouthshire has placed a contract for the erection of the first stage of the

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ROAD AND RAIL BRIDGE ACROSS THE CHANNEL

New Project by International Consortium

A NEW solution to the problem of providing a physical link between Britain and the Continent, across the Straits of Dover, has been advanced by a consortium of British, French and American companies. This provides for a cross-channel bridge, the construction of which, it is stated, would involve no difficulties greater than those which have already been successfully overcome.

The bridge project, together with a priced estimate, prepared under the direction of the Compagnie Francaise d'Entreprises, has been submitted to the Channel Tunnel Study Group on behalf of that company, in association with Dorman Long (Bridge and Engineering), Ltd., and Merritt-Chapman and Scott Corporation of America.

In announcing their proposal, the authors point out the many advantages which a bridge would have over a tunnel. They state that from the general, technical and economic viewpoints a tunnel type of crossing provides only a partial solution to the problem, is already outdated by the present traffic trends and doomed to increasing inadequacy as these trends develop in the future. To endeavour to adjust it to meet the requirements of modern and future traffic would lead only to unacceptable hazards to its users. The bridge solution, they say, is the only one that provides a direct connection between the two countries in accord with the requirements of the second half of the twentieth century.

740ft. Spans

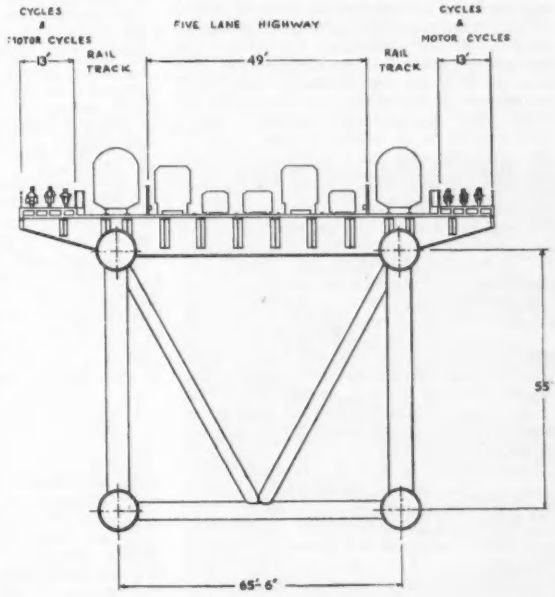
The proposed line of the bridge crosses the Straits at the narrowest point, a distance of 21 miles from the South Foreland near Dover to a point just south-west of Sangatte near Calais. Rail connections with existing routes could be made within five miles of the bridge terminal on the French side and just over two miles on the English side.

Considerable investigations of the foundation conditions on the sea-bed have already been carried out. If subsequent investigations of the route proposed showed any diversion to be advisable, this could readily be accommodated. The elevation of the land at both ends of the bridge greatly facilitates the bridge approaches.

The bridge terminals in both England and France lie in open country permitting the development of terminal facilities and connections to existing routes without great cost.

The structure is designed to provide a central five-lane highway, 49ft. wide; two railroad tracks, one on each side of the highway located directly over the bridge girders; and an overhanging sidewalk 13ft. wide on each side for cycle and motor-cycle traffic. The design has been prepared in accordance with British and French national loading standards and specifications.

On economic grounds for the conditions prevailing, a span of 740ft. between pier centres has been adopted throughout the crossing with the exception of two pairs of wider navigation openings, situated on the sea routes on either side of the Varne Bank. A minimum headroom of 170ft. at high water is available under the ordinary spans and 230ft. in the navigation openings. The normal spans are of alternate rigid cantilever and suspended span construction.



CHANNEL BRIDGE — TYPICAL CROSS SECTION

On the proposed bridge location the piers are situated in the following depths of water: 18 piers in depths between 0ft. and 65ft.; 35 between 65ft. and 100ft.; 45 between 100ft. and 130ft.; and 44 between 130ft. and 165ft. The successive construction of a very great number of piers of the same design and in increasing depths of water would permit the development and adjustment of the fabrication and placing technique adopted as the work proceeds towards the deeper water.

Construction of Piers

The piers are of uniform section, approximately elliptical in form. They consist of heavy precast rings of reinforced concrete superimposed on one another, with socket-type joints. The lowest ring which forms the foundation on the channel bed is filled with a grouted rockfill mass after setting in place. The remaining rings are filled with sand or other suitable granular material to provide the required stability. The whole pier is anchored to its base by cables set in conduits formed in the walls of each ring and grouted in place. The upper ring is covered with a concrete slab some 50ft. above sea level upon which the legs of the steel superstructure are supported.

The steel superstructure comprises cantilever truss spans 1,180ft. long overhanging the standard 740ft. openings. Their ends are connected by 295ft. suspended spans. The depth of the cantilever spans is sharply accentuated over each pier to form a support. The spans rest upon alternate fixed and expansion bearings on the pier caps.

Members of the truss spans of the superstructure are of circular tubular construction built up from steel plates by welding. The magnitude of the project and the large amount of repetition involved is said to make such a form of construction economic. The dimensions of the tubes permit ample space for access and maintenance and for the accommodation of services, if required. The outside diameter proposed for the chord tubes is 11ft. 9in. and for the web members 6ft. 6in.

The design of the bridge deck is based upon the orthotropic slab principle. The forms of the deck members are proportioned in such a manner as to induce deflection of the wind currents with a view to the protection of vehicles using the bridge. Wind-tunnel experiments to this end are now proceeding.

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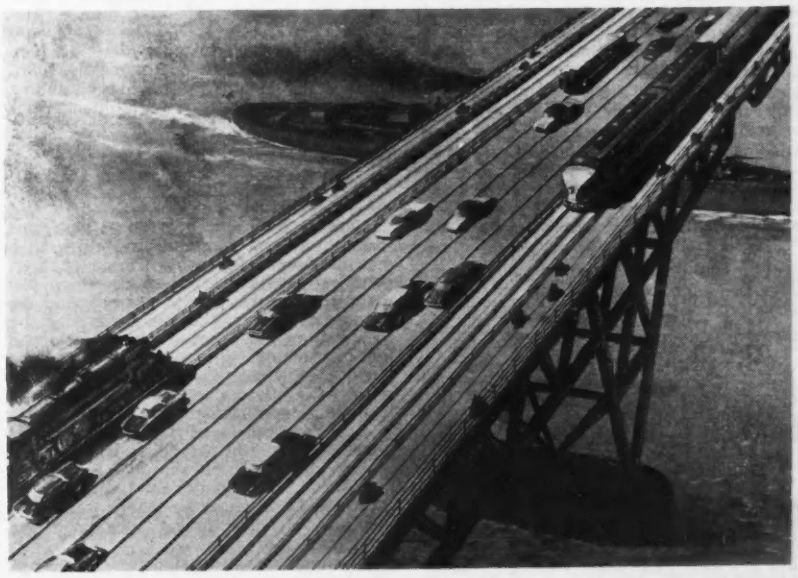


An artist's impression of a section of the completed bridge

CONSULTANT DISCUSSES LARGE SPAN BRIDGES AT PLANT ENGINEERS' MEETING

A LECTURE on large span bridges with special relation to the Runcorn-Widnes project was given last week by MR. J. KENNETH ANDERSON, M.A., M.I.C.E., partner, Mott, Hay and Anderson, consulting civil engineers, at a general meeting of the Institution of Plant Engineers held at the Royal Society of Arts.

Mr. Anderson opened his lecture by outlining the history of the scheme for bridging the river between Runcorn and Widnes. The existing Widnes Transporter Bridge had given a considerable amount of trouble over the years, principally because of corrosion, and although certain strengthening measures had been successful it was finally agreed that a new bridge was essential.

Various types of bridge were considered, including a multi-span truss bridge and a suspension bridge. Objections raised by the Manchester Ship Canal Company regarding the possible scouring of their retaining wall led to a decision to have a single span bridge. A suspension bridge was suggested and tests were undertaken on sectional models to ascertain the aerodynamic stability. At the last moment it was found that the adjoining railway bridge had an adverse effect on the aerodynamic stability of the proposed suspension bridge and it was finally decided to adopt a scheme for an arch bridge.

Third Largest Steel Arch

This bridge, which is now under construction, has an arch spanning across both the River Mersey and the Manchester Ship Canal without intermediate support. The clearance required over the Canal determined the exact length of this span. The whole project comprises a main span and suspended deck, two side spans and two approach viaducts.

The main span is a steel arch, 250ft. high, spanning 1,082ft. between the main pins on the skewback piers and when completed will be the third largest steel arch in the world. The lower chord is an arc of a circle passing through the main pins while the upper chord, a circular arc for approximately half its length, reverses its curvature near the quarter points of the main span and flattens out into the side spans and thus gives the whole bridge a graceful and pleasing line.

Riveted gusset plates connect the box-section chords to the laced diagonal and lateral members, but welding has been used extensively in the deck stringers and cross girders. Roughly half the steel to be used is mild steel and half high tensile strength steel giving a total of 5,380 tons.

Each side span, supported at its shoreward end by a slender trestle, is a truss 275ft. long, making the total length for the steel bridge 1,632ft.

The skewback piers and the trestle foundations are founded on sandstone rock.

Provision is made for a 33ft. carriageway and two 6ft. footpaths; and the main trusses are at 54ft. centres. The roadway is approximately 90ft. above the river.

In the main span, stringers supporting the roadway and footpaths rest on cross girders suspended from the lower chord of the arch by steel wire rope hangers 2¾in. in diameter. The suspended structure ends in the spandrel at compressed rubber main expansion joints. Fixed cross girders in the spandrel providing the stringer supports are replaced in the side span by U frames connected to the upper chord and stiff enough to eliminate the need there for an upper lateral system. This results in a more pleasing view of the arch as seen by drivers of vehicles approaching it.

Erection of Arch

Erection of the arch is being achieved in a manner similar to that employed on the Sydney Harbour Bridge. Both side spans are being erected on temporary trestles and help to counterbalance the weight of the half-arches as these are constructed upwards and outwards until they meet at the crown. Further support is given to the cantilevered half-arches by cables fastened to the upper chord and passing over a temporary mast above the main pin to anchorages embedded in rock on the shore.

From the south, Greenway Roundabout connects the existing roads in Runcorn to the Runcorn Approach, 1,425ft. long, and from the bridge the 783ft.-long Widnes Approach leads to the junction at the northern end of the project. The total length of the scheme with the two approaches and main bridge is 3,840ft., nearly three quarters of a mile.

R.C. Viaducts

The two approaches will be reinforced concrete viaducts with spans varying from 70ft. to 90ft. The 8in. roadway slab is monolithic with four longitudinal beams which are supported by tee-shaped piers, while the footpaths are cantilevered each side. Sixteen-inch superelevation is provided where the approaches are curved.

The Runcorn approach includes steel girder bridges over the Bridgewater Canal and the High Street, Runcorn. Both bridges are skew and have nine girders adequately cross-braced. The Bridgewater Canal Bridge has riveted girders, 5ft. 6in. deep, with a span of approximately 108ft. while the High Street Bridge spanning approximately 50ft. has welded plate girders with an average depth of 3ft. 6in.

Services are carried between the beams on the approaches and under one footpath on the main bridge.

The roadway will be finished with asphalt and will have a camber of 4in.

During his lecture, Mr. Anderson showed some excellent coloured slides of the work in progress and referred to some of the difficulties experienced in carrying out the foundation work.

The contractors for the foundations are L. Fairclough, Ltd., and for the superstructure Dorman Long (Bridge and Engineering), Ltd.

Channel Proposals

Mr. Anderson was giving his lecture at a time when proposals had been announced for a Channel Tunnel and Channel Bridge, and during the questions which followed his lecture he was asked his opinion on these two proposals. He thought a Channel Tunnel was feasible but the problem of ventilation would be fantastic if it was to be used by road traffic. The expense would be such that he considered the tunnel could really only be used for rail traffic.

As regards the bridge, he said the depth of the foundations required would undoubtedly be a formidable task. They might have to be placed under water—a method which had been undertaken successfully in the United States. There was also the great difficulty of getting materials out to the centre of the Channel and the problem of providing working space.

Use of Reinforced Concrete

Asked whether he thought a greater use would be made of concrete in future bridge construction he replied that much depended on steelwork prices. He thought engineers must put out to tender alternative schemes as had been done for the towers of the Tamar Bridge where reinforced concrete had won the day over steel. It was his opinion that greater use of reinforced concrete would be made in the future.

Answering another question on the use of aluminium he said this material was much more expensive and satisfactory welding was a problem.

Problem of Corrosion

Mr. Anderson answered a number of questions on corrosion and said on the Tamar Bridge the steelwork was being grit blasted followed by a metal spray, primer and coat and no corrosion was anticipated.

Asked about the life of a suspension bridge, Mr. Anderson stated that this was lengthening and it might well be 200 years or more. Fatigue had to be watched, however, and there came a time when maintenance costs were such that to retain an existing bridge was no longer an economic proposition.

(Concluded from previous page)

The design has been prepared with a view to the prefabrication of the pier ring segments and assembley of the superstructure units in workyards to be established on both sides of the channel. The workyards would be provided with effective connections to the adjacent road and rail systems and with launching facilities on the foreshore to suitably protected basins from which the necessary floating out operations could be executed.

The pier ring segments would be floated out from the workyard basin to their permanent sites with the aid of buoyancy tanks or "camels". At these sites they would be placed in position with the aid of "De Long" type pontoon platforms fitted with their own generating plant and all necessary hoisting, compressed air and maintenance equipment. These platforms consist of large pontoons by which they can be floated from one site to another, with retractable legs or spuds which can be forced down to the sea-bed and by means of which the platforms can be raised from the water above the influence of wave action. The platforms would be serviced by vessels converted for the transport of all necessary materials for the construction of the piers.

Complete spans of the bridge superstructure would be assembled in the workyards, rolled out on slipways and transported on specially designed pontoons to the bridge site where they would be deposited by the falling tide upon the completed piers.

The total weight of structural steelwork involved in the structure is approximately 800,000 tons.

PROF. NERVI RECEIVES HIS MEDAL

Tributes to the work of Professor Pier Luigi Nervi were made by two architects and two engineers at a ceremony held at the R.I.B.A. last week when the Professor was presented with the Royal Gold Medal for Architecture by Mr. Basil Spence, O.B.E., P.R.I.B.A.

After speeches in his honour were made by Professor A. L. L. Baker, D.Sc.(Eng.), M.I.C.E., Mr. O. N. Arup, C.B.E., M.I.C.E., Mr. Lionel G. Brett, M.A. and Professor Robert Matthew, C.B.E., Professor Nervi made a brief speech of thanks in French.

An account of Professor Nervi's career and illustrations of his work appeared in *The Contract Journal* of January 14, at the time the award of the medal was announced.

"PROPPED-CANTILEVER" SYSTEM USED IN L.C.C. EQUIPMENT CENTRE BUILDING

EQUIPPING 1,500 London schools and colleges with the things they need—from pencils to costly apparatus and machines—is the job of nearly 250 administrators, technicians, stock assistants, drivers and porters at the new School Equipment Centre which London County Council have built at Kennington Lane, Lambeth.

The Centre is composed of three main elements:

(a) A four-storey building (with provision for a possible fifth storey later), supported above the single-storey block and yard, containing the sample and display rooms, administrative accommodation and committee rooms and, on the roof, a canteen and a caretaker's flat.

(b) A single-storey building containing maintenance and tool repair shops, grindstone repair room, pottery kiln room, storerooms for furniture held for lending to meet occasional needs and for metal and tool spares; this accommodation has direct access to the loading bay. A locker hall, mess room and packing and dispatch areas are situated immediately behind the loading bay.

(c) Garages forming the street frontage to the scheme and serving as a screen for the yard.

Construction

The main four-storey block is 152ft. long, 61ft. 6in. deep at the centre and 73ft. high, excluding the lift motor room. It has been designed to provide the principal requirements of large well-lighted areas, in which to display the ranges of furniture and equipment to the head teachers and other visitors, together with unusual strength to take heavy floor-loads. A "propped-cantilever" system of construction in reinforced post-stressed concrete has enabled this to be achieved.

A reinforced post-stressed concrete core, in the shape of a hollow box measuring 48ft. by 18ft. on plan, forms the centre of the block and gives central support at each floor level to two sets of reinforced post-stressed concrete beams, each 67ft. long. These beams are propped at the other end by spandrel beams at each end of the building, and thus completely open rooms over 60ft. long can be provided.

The first and second floors will support floor loads of 200lb. per sq. ft.; the third, fourth and future fifth floors each 100lb. per sq. ft.

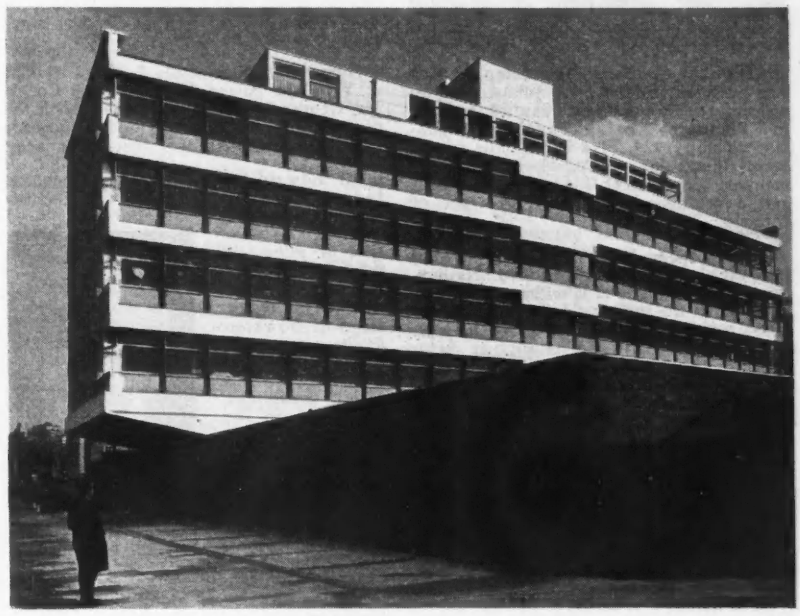
The central core contains the lifts, staircases, service ducts and most of the plumbing. Access is provided from it to all departments and to the loading-bay in the single-storey block.

The design provides for the possible addition at a later date of the fifth storey; this can be seen in the detail at roof level. The canteen and caretaker's flat on the present roof are designed so as to be dismounted easily and rebuilt when the fifth floor is added and to enable as much as possible of the material to be re-used. The lift as installed will serve all five floors and the motor room, which rises well above the fourth floor, will of course be almost unnoticeable from the ground when the fifth is added.

All concrete walls and ceilings are smooth faced and are not plastered before painting. Similarly linoleum flooring is placed direct on the structural floor slabs.

The garages and single-storey block are of normal beam and slab construction.

The design of the centre was the responsibility of Mr. Hubert Bennett, architect to the Council. J. Rawlinson, chief engineer, L.C.C., was responsible for the heating, electrical and lift installation, and the consulting structural engineers were The Prestressed Concrete, Co., Ltd. The main contractors were Wilson Lovatt and Sons, Ltd.



The L.C.C. school equipment centre

£850,000 EUSTON ROAD IMPROVEMENT SCHEME

AT their meeting last week, the L.C.C. approved a revised scheme for the improvement of Euston Road, London, N.W.1.

Originally the scheme included the widening of Euston Road between Albany Street and Gower Street with an east-west underpass under the intersection of Euston Road and Hampstead Road. This scheme will now be extended westwards from Albany Street to Park Square East to secure the full width of carriageway on the drive adjoining Park Square East and enable traffic turning right into Park Square East and Albany Street to wait clear of other traffic.

A small roundabout will be provided, in addition to the underpass, at the junction of Euston Road, Hampstead Road and Tottenham Court Road with pedestrian subways below Hampstead Road and Tottenham Court Road. Bus lay-bys will be provided on the southern slip roads east and west of Tottenham Court Road and on the northern slip road west of Hampstead Road. Discussions are proceeding with the London Transport Executive about providing additional pedestrian subways.

The amended scheme will involve acquisition of some additional properties, but some property previously required will not now be needed.

The scheme as a whole will be carried out in conjunction with large-scale redevelopment projects to the south-east and possibly to the north-west of the main intersection. The detailed layout of the scheme will also be carefully considered from the civic design aspect, attention being specially paid to the architectural treatment and finishes of the underpass, the surface layout of the large open areas on either side, the detailed design of the subways and the selection of street furniture. The St. Marylebone and St. Pancras Borough Councils are being asked to confer with a view to the provision of a uniform scheme of street lighting along Euston Road.

Estimated cost of engineering works for the revised scheme is £850,000, excluding any additional subways. Expenditure of £3,045,000 has already been approved for the acquisition of property and works in connection with the improvement.

WELSH CONTRACTORS FINANCE CIVIL SCHOLARSHIP

The contribution of civil engineering contractors to the Civil Engineering Scholarship Trust has now been augmented by a scholarship worth £360 per annum to be financed by members of the South Wales and Monmouthshire Section of the Federation of Civil Engineering Contractors.

The Section thus becomes the first of the eight area Sections of the Federation to provide a scholarship for the Trust. When awarding it, the Trust will do its best to meet the wishes of the South Wales and Monmouthshire Section that the boy receiving it should, if possible, reside in South Wales and intend to undertake his civil engineering studies at either Cardiff or Swansea University.

Individual civil engineering contractors in membership of the Federation at present provide over 80 per cent. of the £16,500 annual income of the Trust.

The London Guild, the Worshipful Company of Carmen, have awarded their "Viva Shield" for outstanding transport improvement in 1959 to John Laing and Son, Ltd., for their work on the London-Birmingham Motorway.

Men and Movements

A RECENT visitor to this country was **Mr. J. Eric Harrington,** president of Anglin-Norcross Corporation, Ltd., the Canadian associate company of Holland & Hannen and Cubitts, Ltd., who purchased a controlling interest in 1954. Mr. Harrington, a past president of the Canadian Construction Association, was accompanied by vice-president, **Mr. R. W. Johnstone** who was an articled pupil and quantity surveyor in Edinburgh before joining Anglin-Norcross in 1924. He is a fellow of the Royal Institution of Chartered Surveyors; member, Engineering Institute of Canada; and a professional engineer, Province of Ontario.

J. E. HARRINGTON R. W. JOHNSTONE

The southern branch representative of Marryat and Scott, Ltd., **Mr. H. L. Nathan,** has retired, and the area will now be managed from the company's regional headquarters at Brighton by **Mr. J. A. Conyers.**

British Insulated Callender's Cables, Ltd., announce that **Mr. C. G. Hickling,** has been appointed manager of their Middlesbrough branch in succession to **Mr. G. W. Wheaton,** who has taken up an appointment at their Prescot works. Mr. Hickling joined the wiring development department of B.I.C.C. in 1947. He transferred to the Birmingham sales office in 1954 and moved to Middlesbrough three years later.

The Minister of Power has re-appointed **Mr. G. le B. Diamond** as chairman of the West Midlands Gas Board.

The new president of the Institution of Water Engineers, to be installed in May, will be **Mr. A. G. McLellan,** general manager of Sunderland and South Shields Water Company.

Redland Tiles, Ltd. have announced the appointment of **Mr. Alan Watson,** A.S.M.A., to be sales manager, responsible for the southern region of the United Kingdom.

Mr. G. M. Warren, sales director of the Aveling-Barford Group, left this country by air last Saturday to visit the company's Australian subsidiary and distributors. He will also meet distributors in Malaya, Singapore and New Zealand, to complete a series of tours that in little more than a twelvemonth, has taken him to all the Group's overseas subsidiary companies. While in Australia, he will see progress on the assembly shop, spares depot and offices that are being built for Aveling-Barford Australia Pty., Ltd., some 16 miles from the centre of Sydney. This establishment, scheduled to come into operation later this year, will take over local part-manufacturing commitments. Mr. Warren's arrival in New Zealand about the end of April is planned to coincide with completion of the first A-B motor grader to be built in Wellington.

Mr. W. J. Walpole has been appointed managing director of Lumenated Ceilings, Ltd., one of the Hall-Thermotank Group of Companies. He has been with them for 12 years and has been a director since January, 1958.

New comptroller of the British Divisions of Yale and Towne Manufacturing Co., is **Mr. George Beebee,** who has been with the company for 12 years. He succeeds **Mr. John O. Sewell,** now general manager.

Mr. Edward Bush, who joined Concrete, Ltd., in 1928 as the firm's sole London representative and rose to the position of sales and publicity director, has had to retire due to ill health. He will however, retain an active connection with the company as sales consultant. His place on the main board of Concrete, Ltd., will be taken by **Mr. Peter Schryver,** who has been sales director of Concrete (Southern), Ltd. Mr. Bush left London recently on an archeological and historical cruise along the Mediterranean coasts.

E. BUSH

Aboard the Queen Elizabeth which sailed from Southampton last week was **Mr. F. Taylor,** chairman and managing director of Taylor Woodrow, Ltd. Mr. Taylor is making one of his periodic visits to Canada to see the group's associate and subsidiary companies.

Mr. G. L. Hodson, who retired on March 31, after 27 years as manager of the Birmingham office of The Stanton Ironworks Co., Ltd., has been succeeded by **Mr. G. A. Atter,** previously deputy manager.

The appointment of new chairmen of two of its senior committees is announced by the British Standards Institution. **Prof. R. H. Matthew,** professor of architecture in the University of Edinburgh, takes over the chairmanship of the Building Divisional Council in succession to **Mr. Paul Gilbert,** and **Mr. H. N. Pemberton** succeeds the late **Mr. A. C. Hartley** as chairman of the Council for Codes of Practice.

MUNICIPAL

Mr. John L. Beckett, city engineer of Leicester, will be installed as the first president of the newly constituted International Federation of Municipal Engineers at a congress to be held in the Unesco Building, Paris, on April 27. The new federation has been formed of existing associations of municipal engineers in Europe. International congresses will be held at intervals of two or three years and the first is being arranged in England some time next year. Mr. Beckett is a past president of the Institution of Municipal Engineers.

President of the Institute of Public Cleansing for 1960-61 will be **Mr. H. M. Ellis,** transport and cleansing officer at Bristol. He will be installed at the Institute's annual conference at Portsmouth in June. Mr. Ellis, who was awarded the M.B.E. for services to the country and to public cleansing, is a Fellow of the Institute. His experience in the cleansing service extends over 26 years. He first served on the North-Western Centre Council in 1937 and was chairman of the centre from 1944 to 1946.

Mr. H. D. Harrison, engineer and surveyor to Frinton and Walton (Essex) U.D.C. since 1946, is to retire at the end of September. Before his appointment at Frinton he was deputy surveyor to Clacton-on-Sea U.D.C.

After six years as borough engineer and surveyor of Warwick, **Mr. Hector Seaton Brown** has resigned through ill health. Aged 45, Mr. Brown was formerly deputy surveyor to Shipley (Yorks.) U.D.C. During the second world war he served as a major in the Far East.

The assistant city engineer of Norwich, **Mr. James Warner Radcliffe,** aged 36, has been appointed deputy borough surveyor of Blackpool. A native of Lancashire, Mr. Radcliffe took his engineering degree at Liverpool University and held local government posts at Bootle, Wallasey and Wakefield before going to Norwich four years ago.

Hereford City Council have appointed **Mr. L. V. Shakeshaft,** of Crawley, Sussex, to the post of senior engineering assistant.

Members of the Institution of Municipal Engineers during their recent visit to the Dunstable commercial assembly plant of the Rootes Group. The party saw the manufacture of Commer trucks and Karrier municipal vehicles

N.F.B.T.E. REPRESENTATIVES ON GOVERNMENT BODIES AND JOINT BOARDS

THE Council of the National Federation of Building Trades Employers has selected the following members to serve during 1960 as representatives of the Federation on the various Government bodies and joint boards and committees concerned with building matters.

Ministry of Works' National Consultative Council of the Building and Civil Engineering Industries: D. E. Woodbine Parish, F.I.O.B. (London), L. A. Walden, C.B.E., F.I.O.B. (Henley-on-Thames), and P. E. Trench, O.B.E., F.I.O.B. (N.F.B.T.E.).

Ministry of Labour's Joint Advisory Committee on Safety and Health in the Building and Civil Engineering Industries: L. A. Walden and P. E. Trench.

Joint Consultative Committee of Architects, Quantity Surveyors and Builders: G. W. Grosvenor, C.B.E. (Bath), H. G. Frost, O.B.E. (Bury St. Edmunds), N. Hannen, F.I.O.B. (London), D. E. Woodbine Parish, T. V. Prosser, F.I.O.B. (Liverpool), and L. A. Walden.

Board of Building Education: H. G. Frost, W. K. Laing, M.I.C.E., F.I.O.B. (London), D. E. Woodbine Parish, T. V. Prosser, J. C. Robertson, O.B.E., F.I.O.B. (Manchester), A. C. V. Telling (Bristol), and T. H. Huxley Turner, C.B.E., F.I.O.B. (Cardiff).

British Employers Confederation: Council—N. Hannen, G. W. Grosvenor, D. E. Woodbine Parish, N. Longley, C.B.E., F.I.O.B. (Crawley), T. V. Prosser, L. A. Walden, and P. E. Trench.

British Employers Confederation: General Meeting—H. G. Frost, G. W. Grosvenor, N. Hannen, L. J. Holloway, F.I.O.B. (London), W. Horsfall, O.B.E. (Liversedge), C. P. Howells, F.I.O.B. (Caerphilly), Sir Robert O. Lloyd, O.B.E., F.I.O.B. (Bromborough), N. Longley, T. V. Prosser, J. Ian Robertson, F.I.O.B. (Burton-on-Trent), F. Russon, F.I.O.B. (Birmingham), C. R. Setter, J.P., F.I.O.B. (Bristol), P. E. Trench, D. E. Woodbine Parish and L. A. Walden; Safety, Health and Welfare Committee—L. A. Walden; Social Insurance and Employers' Liability Committee—E. R. Bowyer, O.B.E., F.I.O.B. (Slough); Industrial Education and Training Committee—H. G. Frost; Industrial Relations Committee—N. Hannen; Employment and Manpower Committee—G. W. Grosvenor; Taxation Committee—M. J. Pelham (London); Road Transport—N. Hannen; Special Committee on Wages and Conditions—F. O. Jayne, M. A. (N.F.B.T.E.).

British Road Federation: N. Hannen.

British Standards Institution: General Council — E. White (Crawley); Building Divisional Council—H. E. Comben, O.B.E., F.I.O.B. (London), W. K. Laing, E. White.

Building Advisory Service Committee of Management: G. W. Grosvenor, N. S. Farrow, M.B.E., F.I.O.B. (London), S. Hudson, C.B.E., F.I.O.B. (Sunderland), W. S. Jones, F.I.O.B. (Maidenhead), N. Longley and P. M. Shepherd, F.I.O.B. (York).

Building and Civil Engineering Holidays Scheme Management, Ltd.: Board of Directors—G. W. Buchanan, C.B.E. (London), F. Leslie Wallis, O.B.E., J.P., F.I.O.B. (Maidstone), and P. E. Trench; Members of the Company—G. W. Buchanan, D. M. Chaston, F.I.O.B. (Hoddesdon), W. S. Jones, Sir Robert O. Lloyd, J. Ian Robertson, F. Leslie Wallis, A. Tomlinson, F.I.O.B. (Leyland), and P. E. Trench.

City and Guilds of London Institute: Representative Member— D. E. Woodbine Parish; Consultative Committee—H. G. Frost and D. E. Woodbine Parish.

Joint Contracts Tribunal: E. R. Bowyer, K. C. F. Foster, F.I.O.B. (London), N. Longley and T. V. Prosser.

Liaison Committee with the Building Research Station: H. E. Comben, N. S. Farrow, Sir Robert O. Lloyd, C. D. Calverley, F.I.O.B. (Leicester), and E. White.

Liaison Committee with the Federation of Civil Engineering Contractors: E. J. Cook, B.Sc., F.I.O.B. (London), D. E. Woodbine Parish, N. Hannen, N. Longley, C. R. Setter, T. V. Prosser and L. A. Walden.

National Joint Council for the building Industry: L. A. Walden, G. W. Buchanan, N. Hannen, C. R. Setter, F. Leslie Wallis, P. E. Trench, H. G. Frost, Sir Robert O. Lloyd, L. J. Holloway, F. Wootton, F.I.O.B. (Walsall), W. S. Thompson, F.I.O.B. (Northallerton), Kenneth Taylor, B.Sc., F.I.O.B. (Rochdale), W. S. Jones, C. P. Howells, G. W. Grosvenor and A. W. Birch, F.I.O.B. (York).

National Joint Apprenticeship Board: Ald. H. Pickles, F.I.O.B. (Halifax), F. Allard (London), H. G. Frost, G. A. Hill, O.B.E., F.I.O.B. (London), Sir Robert O. Lloyd, D. E. Woodbine Parish, K. J. Pearce, T.D., F.I.O.B. (London), J. C. Robertson, F. Wootton, H. Snow (Liverpool), G. O. Swayne, O.B.E., F.I.O.B. (Guildford) and A. C. V. Telling.

Standing Joint Committee for the Standard Method of Measurement of Building Works: L. A. Walden, G. E. Beard, M.B.E., F.I.O.B. (Swindon), R. E. I. Carlyle, J.P., F.I.O.B. (Manchester), S. T. Firth, J.P., F.I.O.B. (Doncaster), K. C. F. Foster, E. T. Sermon, F.I.O.B. (Nottingham) and C. E. Westerman, F.I.O.B. (London).

National Advisory Committee for the Training of General Foremen: D. E. Woodbine Parish, W. T. Booth, F.I.O.B. (Bradford), N. Hannen, G. I. Orchard, F.I.O.B. (Stroud), I. W. Owen, F.I.O.B. (Stockport), C. E. Wadley (Colchester), R. W. Whittington, F.I.O.B. (Southampton) and F. Wootton.

Timber Development Association Council: G. W. Grosvenor.

Liaison Committee with B.I.D.: D. E. Woodbine Parish, T. V. Prosser, C. R. Setter and L. J. Holloway.

Employers' and General Foremen's National Joint Advisory Committee: N. Hannen, W. T. Booth, T. S. B. Coats (Swansea), R. G. Finlay, F.I.O.B. (Sunderland), G. I. Orchard, I. W. Owen, J. B. Tomkinson, F.I.O.B. (Liverpool), D. E. Woodbine Parish, C. E. Wadley, R. W. Whittington and F. Wootton.

Architects Registration Council: D. E. Woodbine Parish.

HYDRAULICS RESEARCH: BRITISH COMMITTEE FORMED

A BRITISH National Committee has been formed, under the auspices of the Institution of Civil Engineers, of the International Association for Hydraulics Research.

One of its first duties will be to offer to organise a Congress of the International body in London. The earliest date is not likely to be before 1965.

Established in Brussels in 1935, the International Association for Hydraulics Research held its first meeting in Berlin in 1937. The 8th Congress was held in Montreal last year: the next is arranged for Belgrade in 1961.

The British National Committee will consist of eleven members. They are: Mr. F. H. Allen, director, Hydraulics Research Station; Professor Jack Allen, Aberdeen University; M. J. Duvivier, Lewis and Duvivier (consulting engineers); Mr. J. T. Evans, British Transport Commission; Mr. H. Headland, Kennedy and Donkin (consulting engineers); Sir Claude Inglis, formerly director H.R.S.; Mr. E. A. G. Johnson, Ministry of Agriculture, Fisheries and Food; Mr. H. F. Merrington, Rendel Palmer and Tritton (consulting engineers); Mr. L. E. Prosser, British Hydromechanics Research Association; Dr. D. G. Sopwith, National Engineering Laboratory; Professor C. M. White, Imperial College.

Obituary

It is with regret that *The Contract Journal* records the death of the following:

Mr. Charles Lovett Gill, F.R.I.B.A. Articled to E. G. Warren of Exeter, he started practice in London in 1910 in partnership with the then Prof. A. E. Richardson. After dissolution of the partnership in 1939, he continued in practice as C. Lovett Gill and Partners until the time of his death at the age of 80. He was responsible for the design of many City of London buildings, among them Finsbury Pavement and Moorgate Hall.

Mr. Alan Edward Burrell, aged 53, head of the Norwich building firm of A. Burrell and Son, and president-designate of the Eastern Federation of Building Trades Employers.

Mr. John Taylor, M.B.E., borough engineer and surveyor of Walsall for 30 years, until his retirement in 1937.

Sir William Frederick Victor Mordaunt Milner, aged 66, partner in the architectural firm of Milner and Craze, London. Sir William was an expert on ecclesiastical architecture and was a past member of the council of the R.I.B.A.

(Concluded from page 217)

below low water. The method adopted for pouring the concrete must allow the maximum pouring capacity to be available for placing underwater at each berthing head dolphin and must allow of the most efficient use, i.e., the minimum handling of waterborne aggregate.

The cofferdams for the berthing head dolphins are lozenge shaped and are of Larssen 4B steel piling, the interior being excavated by grabbing and finally cleaned up by diver. The concrete is poured in lifts of 6ft. to 8ft. thickness, divers cleaning off laitance between lifts.

Batching Plant

The Blaw Knox pontoon mounted batching plant which the contractors have designed to supply the mass concrete for the berthing head cofferdams, consists of a pontoon of 104ft. length, 29ft. beam and 4ft. draught which carries two NCK 304 cranes, two 30 cu. yd. 30/4 "Batchmaster" weighbatchers feeding to two Rex 28S concrete mixers of 28 cu. ft. wet capacity which discharge through wet hoppers and retractable chutes to "Tremie" buckets of 4 cu. yd. capacity for underwater placing by derricks mounted on the piles of the hose handling platform. Ancillary equipment includes a 75-ton freshwater tank, two generating sets, two small compressors, bilge pumps, booster pumps, a number of hand winches, for positioning the pontoon, and two grabs of 21/27 cu. ft. capacity for loading the aggregate bins of the batching plant.

Storage capacity of the aggregate bins is 30 cu. yd. each, the discharge being through radial gates actuated by levers which are grouped at one side of each bin. The aggregates are weighed in a 60 cu. ft. capacity bottom discharge weigh hopper, the weight of each amount being recorded on a weighing dial, calibrated from 0 to 5,000lb., the design mix being indicated by adjustable pointers which are set to the given amounts for one mix. As bagged cement is used a set number of bags can be used for each batch. A radial gate controlling discharge from the hopper is opened and closed automatically by the mixer skip, riding in the guides between the batcher and the mixer.

Cement is received in bags on board the pontoon, and sufficient deck space exists between the cranes and the batching plant to accommodate 100 tons of cement, protected from the weather by tarpaulins. The mix for the berthing head dolphins is 1:2½:5 this carrying 25 per cent. extra cement to allow for underwater placing such that the final ratio is 1:2:4 approx., giving a strength at 28 days of some 3,000 p.s.i. A laboratory is maintained at the site for testing of all incoming aggregates and for testing cubes. The mix used in the casting yard for the precast units of the shore and trunk arms is 1:1½:3, giving a minimum strength at 28 days of 5,500lb.

Recessed Fendering System

A feature of the berthing heads is the recessed fendering system which consists of four suspended weights at each strong point, the weights being steel boxes filled with concrete. These have a weight of 100 tons and are carried on swinging links. They are arranged to project beyond the face of the berthing head, thus absorbing much of the energy transmitted to the head by a tanker in berthing.

Work started on the project in mid 1958, the consulting engineers for British Petroleum being Rendel, Palmer and Tritton and the contractors being Christiani and Nielsen, Ltd. The resident engineer is Mr. H. E. Eilenberg, B.Sc., A.M.I.C.E., and the agent for the contractors is Mr. S. Borrit.

Talking of Safety

by "DRAGEE"

PERSONS working on roofs have the choice of two ways of coming down suddenly: through the roof or off the edge. Either is likely to be painful, and together they account for more than 400 of the 5,000-odd reportable falls of persons in the building industry each year. About 30 of the accidents are fatal. From the point of view of severity there is very little between them, but, if anything, falls through fragile roof materials are rather more severe than falls from sloping roofs.

I am not an enthusiastic quoter of accident figures, particularly to the persons most directly concerned—the workers themselves—but just once in a while it does one good to do a little stocktaking to see what the position really is, especially if it leads to an examination of the state of affairs in one's own organisation.

At about nine o'clock on the first day of January, 1960, one of our men came down through the roof of a newly constructed fuel store. He dropped 30ft. on to a heap of concrete ballast, and mercifully escaped with a broken ankle and a dislocated shoulder. The man had been fixing some flashing at the frame of a roof light when he suddenly went into a slide, making for the eaves and what was promising to be the first fall of the year from a sloping roof. As it happened, he reached the middle of an asbestos sheet, which broke and produced, instead, a slightly different record as the first fall of the year through fragile material. That didn't interest him in the least, of course, but he was overjoyed to find some fairly soft material waiting for him when he arrived.

The use of a crawling board would have prevented this accident.

Several years ago, a steel erector took a dive down a long sloping galvanised iron roof and was about to launch into thin air when the tool holder attached to his waist belt caught a projecting gutter clip and supported him until assistance arrived.

Again, the use of a crawling board would have prevented the accident.

Many people are more unlucky, and take the plunge to death or permanently crippling injuries without a last-minute helping hand from Fate, but it is a fact that almost every one of the accidents involving roof work could have been prevented by taking elementary precautions.

"Dragee," who is a practising safety engineer, would welcome subjects for discussion in this column. All names of persons mentioned in these discussions are entirely fictitious. Questions of law are expressed as the author's personal opinions and are not claimed to be authoritative.—EDITOR.

Ever since the New Year's Day accident, we have adopted more stringent precautions, and many discussions on the subject have been held. Some of these have brought curious beliefs to light. One of them cropped up during a chat with an elderly building foreman named Ben Witton. After telling me that he had been fixing asbestos sheets since they were first produced he proceeded to inform me that although asbestos sheets deteriorated with age, when they were new they were as safe to walk upon as "tin" sheets.

"Ben, that's absolute nonsense. Whatever changes take place in the material in the course of time I don't know and I don't think it makes the least difference. Fragile roofing materials have to be treated with the utmost caution right from the start. When we had our last accident of that kind the sheets had only been laid within the past few weeks."

"Ah, but it's all right if you keep close to the purlins," said Ben doggedly.

"There I must disagree with you once more," I replied. "Accidents have happended again and again when the victims were walking or crawling above the line of the purlins, believing themselves to be safe. You just can't take a chance with any of those brittle materials."

At this point I mentioned a few of the figures I have already quoted. Ben was sympathetic but unconvinced, and I could see that a demonstration was called for. Together we prepared a dummy roof consisting of a surplus asbestos sheet laid a few inches above the ground with a slope of about 30 degrees. We brought a few more workers along to watch, and one man weighing about 13 stones stepped on to the sheet. It curved downwards slightly but withstood the pressure, then, as the man took a further step forwards, it suddenly broke up into several pieces. The loud crack as the material fractured was momentarily startling.

"Do you all understand the object of that demonstration?" I asked the men. They nodded and agreed they did.

"Don't forget, this is unused material, pitched as it might be on an actual roof. Do you find the demonstration convincing?"

They did. After they had gone I turned to Ben.

"Now, you old sinner, what have you to say to that?"

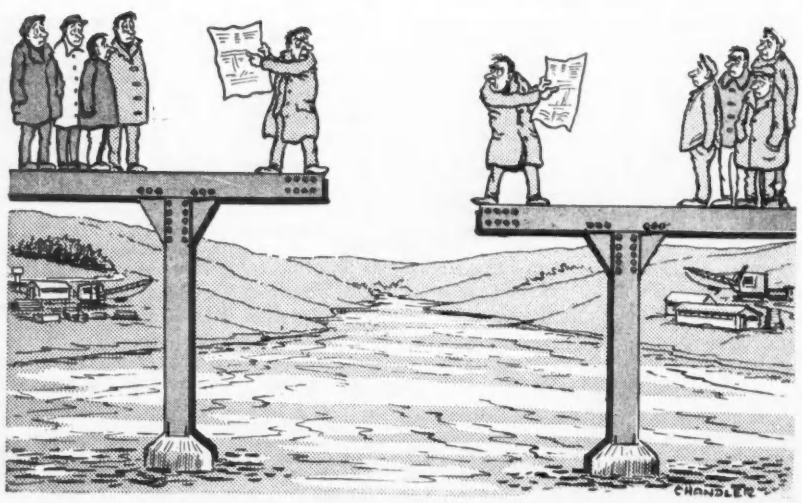
"Interesting," he said, grudgingly, "quite interesting."

We were making headway.

"Just one other thing, Ben. As you know there's a regulation dealing with roof work—Building Regulation 31, in fact. If you have a few minutes to spare we'll go back to your hut and have a look at it."

"Scrounge a drop of tea, more like," growled Ben.

We had the tea with the regulations: I felt better for it even if Ben didn't.



BINDING CHAIN FOR THAMES TUNNEL SHAFT

In the course of the rehabilitation work now being carried out at Wapping Station, on London Transport's East London Line, an iron chain has been found round the circular shaft leading down to the platforms.

The shaft is one of the two original shafts of the Thames Tunnel—the first tunnel for public traffic ever to be driven beneath a river—built between 1825 and 1843 by Sir Marc Isambard Brunel. Both shafts were built with stairways for pedestrians, but the inclined approaches which were to have allowed wheeled traffic to use the tunnel were never constructed and it was not used by wheeled vehicles until, after purchase by the East London Railway in 1865, trains started to run through it in 1869.

The shafts were sunk in an unusual manner. A cast-iron ring was constructed on the surface of the ground and the brickwork of the cylinder to form the shaft was built up on it above ground to its full height of 42ft. The ground inside the cast-iron ring was then excavated and the brick cylinder descended in one piece under its own weight as the ground beneath it was cut away. The rate of descent is said to have been about 6in. a day. The brickwork of the shaft at the Rotherhithe end of the tunnel was completed in three weeks but there was less hurry at Wapping, where from start to finish it took a year to build and sink the shaft. The cylinders were 50ft. in diameter and 42ft. high and weighed perhaps 1,000 tons.

The sinking process must have placed considerable strains on the newly completed brickwork, and contemporary accounts state that the cylinders were "rigidly braced" to help them withstand the stresses involved. It seems probable that the chain recently discovered was placed round the exterior of the brick cylinder, before the lowering process began, to strengthen it as it descended into the ground. There may well be other similar chains round the shaft at other levels.

The chain is of iron and is in reasonably good condition after its 120 years in the earth. It is made up of 6in. links forged from 1¼in. diameter bar.

PROSPERITY DEPENDS ON PARKING SPACE

"The prosperity of business and shopping areas may more and more depend on the availability of parking space for those making business and shopping calls," said Mr. Rowland Nicholas, city surveyor and engineer, Manchester, in London recently.

Mr. Nicholas, who was introducing an informal discussion of the Traffic Engineering Study Group at the Institution of Civil Engineers, went on to say: "It may also be affected to some extent by the difficulties experienced in loading and unloading goods from commercial vehicles in streets where parking is intense."

He uttered this warning: "Unless these facilities are available, urban centres may disintegrate under the pressure of the increasing use of private vehicles, as is happening in some of the larger American cities."

International Construction

WESTERN NIGERIA'S NEW SPORTS STADIUM WILL COST £400,000

NOW being completed at Ibadan, Western Nigeria, is a new sports arena, the Liberty Stadium, which next October will be the focal point of the country's independence celebrations.

Costing about £400,000, this reinforced concrete structure will accommodate about 35,000 spectators. It is designed in an elliptical shape and is located on the top of a hillside which faces west. The line of the north-south axis runs 17 degrees west of south so that players will not be dazzled by the sun.

All construction is being carried out by direct labour under the Ministry's supervision.

Parking Facilities

The entire site covers 75 acres with parking facilities for 2,000 cars and 6,500 bicycles, about 1,500 of which can be stored in racks under the standing areas. Stadium officials hope to eliminate traffic jams through the construction of roads that will approach the arena from three sides, one of which will link the area with the main road from the cities of Lagos and Abeokuta.

A model of the new stadium

Track facilities include a running circuit of 440yd. with a straight length of 140yd. The width allows for seven lanes—the inside lane designed chiefly for runners in the half-mile and longer events. The football pitch is 110yd by 70yd. with semi-circular areas at both ends for field events.

Designed with a view to playing host to international events, the accuracy of the track measurements has received careful attention from J. E. K. Harrison, who is serving as consulting architect for the stadium in consultation with the Western Nigerian Ministry of Works and Transport.

The western tier of seats will feature an aluminium covering. Under the western stand will be the main entrances for VIP's, athletes, players and officials. Facilities include changing rooms and showers for 200 male and female competitors, committee rooms and offices, a cafeteria and extensive ground-keeping and sports equipment storage space.

Photofinish equipment will be installed on the east side along with special booths for radio and television coverage. The Press box will be glass-enclosed and air-conditioned.

Drainage to take care of the heaviest of tropical rains has been provided for with a series of herring-bone drains located under the track which lead eventually to two main outfalls of 30in. pipes.

Second Phase

The stadium itself is the phase one stage of a complete sports centre. The phase two stage, to start next year, will include a swimming pool designed for international competition, tennis courts, cricket pitches, football fields, a practice track course and an open parkland for children.

The track-surfacing, imported from England in 50-gallon steel drums, is the same type as that used at the 1956 Melbourne Olympics. The track contractors are En-Tout-Cas Co., Ltd.

INTERNATIONAL POWER AND ENGINEERING CONSULTANTS

AGREEMENT in principle has been reached for the development of a new engineering company, International Power and Engineering Consultants, Ltd., of Vancouver. The organisation is an outgrowth of B.C. and B.B. Power Consultants, Ltd., which was formed in 1958, to carry out the detailed engineering work on the Peace River Hydro-Electric Project in British Columbia.

British Columbia Power Corporation, Ltd., of Vancouver, through its subsidiary British Columbia Engineering Co., Ltd., held a 51 per cent. interest in the company, while Balfour Beatty and Co., Ltd., of London, held 49 per cent. International Power and Engineering Consultants, Ltd., will be owned on a fifty-fifty partnership basis between British Columbia Power and Balfour Beatty.

Sir Andrew MacTaggart, chairman of Balfour Beatty, Power Securities Corporation, Ltd., and also of Peace River Power Development Co., Ltd., will be chairman of the new company. A. E. Grauer, president of British Columbia Power and British Columbia Electric, will be deputy chairman, and T. Ingledow, vice-president of British Columbia Power and President of British Columbia Engineering, has been named president.

Directors in International Power and Engineering Consultants will be Sir Thomas Foy, A. E. Grauer, T. Ingledow, K. H. Kidd, Sir Andrew MacTaggart, R. H. R. McGill, W. I. O'Hara, Henry W. Smith, Jack H. Steede.

FRÉJUS DISASTER—FAULT IN ROCK

The break in the Malpasset dam, which caused the Fréjus disaster, is believed to have been the result of a fault in the rock. A report recently published by the French Ministry of Agriculture completely exonerates the designers and builders of the dam.

At the time of the disaster there was much speculation regarding the reason for the dam's collapse. It was thought that perhaps the dam, claimed as the thinnest in the world, was in fact too thin, or that the concrete had given way. But the Ministry's report states that the calculations on which the design was based were sound and the structure was correctly constructed.

Fragments of debris left behind by the waters have made it clear that it was the rock underneath the dam that was to blame. The inquiry into the disaster is continuing to ascertain exactly what happened to the rock, so that similar calamities can be avoided in the future.

£A3M. CULTURAL CENTRE PLANNED

Melbourne's new £A3m. cultural centre, which is due to be completed in 1964, will incorporate art galleries, an auditorium to seat 1,000 people, a restaurant, library and meeting rooms.

The architect, Mr. Roy Grounds, and the director of the Melbourne Art Gallery, Mr. Eric Westbrook, will leave Australia soon to study art galleries overseas.

BOOK REVIEWS

The Engineer Buyers Guide, 1960. Publishers: The Engineer, 28 Essex Street, Strand, London, W.C.2. 974pp. Price 9s. 3d.

The Buyers Guide is formed of two sections, the first of which contains a number of general headings likely to be of use to the reader. These headings include Forthcoming Engineering and Industrial Exhibitions; Associations, Institutions and Societies, connected with the Engineering Industry; National Undertakings; U.K. agents for Foreign Firms; and Trade names.

The second section, or Buyers Guide itself, has over 34,750 entries within its 768 pages, arranged under 2,650 classified headings with 1,600 cross references. Addresses of firms appearing in this part of the book, with other information, are given in the first section.

The Directory of Contractors and Public Works Annual, 1960. Publishers: C. W. Biggar, Ltd., 68 High Street, Northwood, Middx. 284pp. Price £2 2s.

Outwardly, this year's edition of The Directory of Contractors remains the same, apart from an index tag separating the Buyers' Guide from the rest of the book. The contents, however, have been amended and brought up to date, and a number of new firms have been included. Still unique in its field, the book remains an important addition to the library of those concerned with building and civil engineering.

Trade Section

NEW INTERNATIONAL TD-25 BLADES AND CABLE CONTROL UNITS

SPECIALLY designed bulldozer and bullgrader blades are now being produced for use with the new International TD-25 diesel crawler tractor.

The 8,720lb. direct-lift hydraulic bulldozer blade and the 7,950lb. direct-lift cable bulldozer blade, with cutting edges of heat-treated, high-carbon steel, have a heavy-duty, arc-welded, box-framed, mouldboard construction. Tilt is adjustable to 18in. between blade ends, and there is a maximum pitch adjustment of 10 degrees. Blade length is 12ft. 3¾in. Height is 49in.

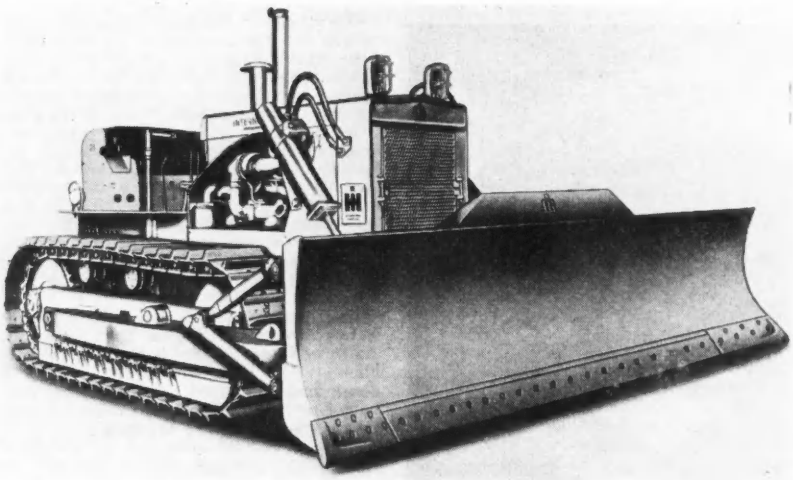
The 9,500lb. direct-lift hydraulic bullgrader and 9,820lb. direct-lift cable bullgrader blades also have cutting edges of heat-treated, high-carbon steel, and the same construction as the dozer blades. Bullgrader blades are angled from straight to 25 degrees right or left, and tilt is adjustable to 12in. between blade ends. Blade length is 14ft. 4¼in. for the hydraulic model and 14ft. 4½in. for the cable version. Height of the blade is 44in.

Cable Control Units

Two new planetary drive cable control units—the front-mounted Model 160 and the rear-mounted Model 260—now are available for the TD-25 crawler. Both are designed to handle the newer heavier equipment developed as matching units for the TD-25.

The single-drum Model 160, with a brake capacity of 9,000lb. line pull at bare drum speed, is a heavy-duty control. It is stated that a two-piece brake and clutch band construction assures longer clutch and brake life and provides greater flexibility and more accurate braking. Both brake and clutch bands have pickup springs at the top half of the bands to keep free line pull to a minimum and reduce heat and wear.

The double-drum Model 260 is claimed to represent a new concept in cable control units, using a ring gear and pinion to drive a four-gear planetary system for each cable-drum. High-strength, lightweight nodular iron major castings, with a unit weight of 2,260lb., are used for the Model 260. The cable drums can handle 248ft. of up to ⅝in. cable, attaining a full drum speed up to 650ft. per minute and a bare drum speed up to 412ft. per minute.



TD-25 with hydraulic controlled bullgrader blade

RANSOMES AND RAPIER INTRODUCE NEW MOBILE CRANE

A NEW mobile crane—the Rapier 1520—will be shown for the first time at the Mechanical Handling Exhibition by Ransomes and Rapier, Ltd., Waterside Works, Ipswich.

The crane is fully mobile for handling loads up to eight tons through all motions. Props are provided for lifting, slewing and derricking with heavier loads up to 15 tons.

Two types of jib are available. The cantilever jib is pivoted at the apex of a steel braced "A" frame which is pin jointed to brackets in the superstructure frame. Jib extensions can be provided to give higher lifts and greater radii.

The strut jib is pivoted in brackets on the superstructure frame. Jib extensions can be provided increasing the basic length of 30ft. to lengths up to 80ft. Telescopic stops are supplied with strut jibs to limit inward over-derricking.

Hook blocks for two- and four-part rope have machined grooved pulleys and forged steel crane hooks on ball-bearing swivels. Single rope hook and weight are supplied for handling light loads with long jibs.

The manufacturers state that exceptional manoeuvrability is obtained from a steering lock of 45 degrees of the inner wheel giving a turning circle of 21ft. 6in. Steering is light, being air-assisted, and travel brakes are hydraulic with air-assistance. The drive is diesel-electric with separate motors for hoist, derrick, slew and travel motions. All controls are in the driver's cab which has good all-round vision.

Rapier 1520 with 30ft. strut jib

KOEHRING DISTRIBUTORS RECEIVE PERFORMANCE AWARDS

Awards to two Koehring Company export distributors for outstanding performance in the fiscal year ended November 30, 1959, have been announced by Mr. F. C. Chambers, Koehring's export manager.

Garcia Machinery, Inc., San Juan, Puerto Rico, won an award for the best overall dealer performance and the highest equipment sales volume, and Palm Co., Ltd., Teheran, Iran, won an award for highest market penetration in selling products from all Koehring's divisions in a competitive market.

During a recent visit to Puerto Rico, Mr. Chambers presented a plaque to Garcia Machinery, Inc., in recognition of the firm's performance. Palm Co., Ltd., will be presented with a plaque by Mr. C. O. Lundberg, of Koehring Overseas Corporation, S.A., on his next visit to Iran.

OWEN FLOOR FLAGS

To combat the wear and tear on the factory floor, Rubery Owen and Co., Ltd., Wrexham, have produced floor flags which are fabricated from heavy gauge sheet steel (10g.) and available in sizes 18in. by 12in. Dovetail shaped tangs stamped in the sheet keep the flags firmly embedded in the concrete base.

TRADE NEWS IN BRIEF

Stockton Chemical Engineers and Riley Boilers, Ltd., announce that the address of their London sales offices has been changed to 232 Bishopsgate, E.C.2. Tel: Bishopsgate 3575-6.

The Mercantile Credit Co., Ltd., are opening a new branch office at 20 Claremont Hill, Shrewsbury. Tel: Shrewsbury 51591/2.

The Hull Branch of **British Insulated Callender's Cables, Ltd.,** now has two new telephone numbers—Hull 24470 and 28367.

Shellabear, Price, Ltd., announce that they have moved from the Victoria Street area to Auckland House, New Zealand Avenue, Walton-on-Thames, Surrey. Tel: Walton-on-Thames 20705-24744-27434.

Bolton Gate Co., Ltd., have opened a London office at Abbey House, Victoria Street, S.W.1. Tel: Abbey 6942.

Albi-Willesden, Ltd., have appointed **Hadfields (Merton), Ltd.,** as main distributors in the United Kingdom for Albi-R fire retardant coating.

New research reports published by the **Timber Development Association,** 21 College Hill, London, E.C.4, include: "The Effective Width of Plywood Flanges in Stressed Skin Construction," by H. Tottenham, M.A., and "Non-Destructive Testing of Wood by Vibration Methods," by I. D. G. Lee B.Sc.(Eng.), A.I.W.Sc.

Trade Section

ABELSON ANNOUNCE LATEST ADDITION TO BUILDMASTER RANGE OF CRANES

THE latest addition to the Buildmaster range of rotary tower and climbing cranes—model SK.40/45—can not only be used as a climbing crane, fixed mono tower crane or travelling tower crane, but it can also be equipped with either a horizontal jib with trolley or a level luffing needle jib.

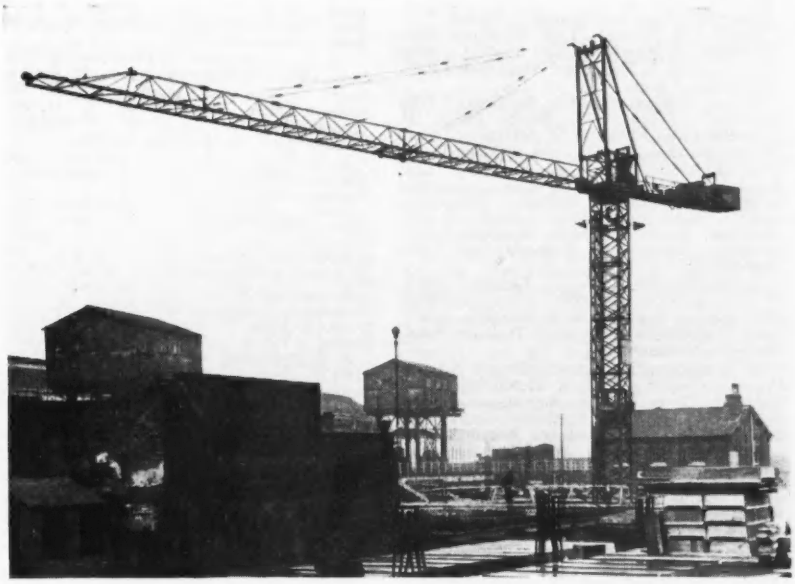
Abelson and Co. (Engineers), Ltd., Coventry Road, Sheldon, Birmingham, 26, state that as a climbing crane the SK.40/45 can be supplied with a mast of up to 70ft. in height and the erection can be effected either normally, if space permits, or vertically with special built-in erection tackle in restricted or confined sites. In both cases the machine is self-erecting.

The standard Buildmaster two-stage climbing gear is incorporated in all cases but, if required, a floor frame climbing device can be supplied. When employed as a climbing crane either jib can be used.

As a free-standing tower crane the SK.40/45 can be erected and will work on a prepared foundation free of all external supports up to a height of 100ft. under the jib heel pen, which gives a maximum height of 180ft. under the hook when the luffing jib is fitted.

To ensure perfect safety and stability and to obviate the need of tying the crane to the building in any way, the bottom 30ft. of the 100ft. mast is composed of three specially designed sections which, whilst retaining the same crossed section as the main mast, are a heavier and stronger construction. When used as a fixed tower crane it is again possible to use either jib.

As a travelling tower crane, the standard climbing crane can be mounted on a powered curved travelling undercarriage suitable for 12ft. 3in. gauge rail track. The travelling carriage is powered by two 7.5-h.p. slip-ring motors and ballast bins are provided on it to accept the necessary ballast which takes the place of the prepared foundation or floor wedges. As a travelling tower crane either jib can be fitted and a maximum height of 155ft. can be reached when the luffing jib is used.



The new SK.40/45 fitted with a 104ft. horizontal jib with trolley travel

Horizontal Jib

The standard horizontal jib which can be fitted is 104ft. long, giving a maximum effective working radius of 98ft. 6in., capable of lifting loads from 2½ tons to 1¼ tons at varying radii along its entire length, the minimum radius being very close indeed to the mast itself.

The travelling trolley is equipped with widely spaced fall sheaves to prevent hook spin when the crane is working at great heights and an over-hoist cut-out switch is incorporated in the trolley to prevent the hook being raised too high and jamming in the trolley.

Level Luffing Jib

The standard level luffing jib which can be fitted is 100ft. long, and gives an effective maximum working radius of 98ft. 6in. With this jib fitted the crane will lift 1½ tons at maximum radius and throughout its entire working range.

The special inter-reaving of the hoist and luffing ropes results in a level luffing motion, inasmuch as when the jib radius is altered the hook moves inwards or outwards on a level plain.

PREMIX OPEN BATCHING PLANT AT AYLESBURY

WITH the recent opening of a new batching plant at Griffin Lane, Aylesbury, Premix Concrete, Ltd., one of the Amey Group of companies, have further extended their ready-mixed concrete service to contractors and farmers.

This is the seventh of the company's plants, which are now able to provide their products to an area incorporating Oxfordshire, Berkshire, and parts of Hampshire, Wiltshire, Gloucestershire, Northamptonshire and Buckinghamshire.

No mixing takes place at the plant, which is purely a weighbatching unit. Having a capacity of up to 200 cu. yd. a day, it was designed for simple hand operation, and was manufactured by Frederick Parker, Ltd., and devised by them in conjunction with Premix. The premix system is for the materials to be accurately weigh-batched and loaded dry into the mixing vehicles. When these vehicles arrive at the delivery point, the correct amount of water is let into the aggregates and cement, and the whole mixed into concrete. It is then discharged by means of a swelling chute.

Four Rapier 3½ cu. yd. mixers, mounted on B.M.C. 7-tonners, serve from the plant, but should the demand be heavy further vehicles can be called upon from the company's other depots.

Premix's capital investment on plant and vehicles over the past five years has been £150,000. They are now supplying concrete at the rate of 150,000 cu. yd. a year.

The Griffin Lane plant

READY-MADE EXPANSION JOINT

Considerable saving in time and money is claimed for a new type of expansion (and contraction) joint to be marketed by the Northfield Building Supplies Co., Ltd., 1195 Bristol Road South, Northfield, Birmingham, 31.

Called the "Co-Joint", it consists of a combined filler and sealing compound, pre-packed ready for use. To form an expansion joint, the cellophane wrapping is cut along the centre line, peeled back, and the whole joint then pressed firmly against the first pour of concrete; the adjacent concrete is then placed and the joint is complete.

Although supplied only in straight sections, it can be adapted to cambered surfaces by making a series of saw cuts into the filler, the spacing of such cuts determining the amount of camber.

The contraction joint version can be supplied with small metal spikes to enable it to be located in the concrete as the work proceeds.

FORD'S RECORD TRACTOR OUTPUT

Mr. W. B. Batty, manager, Ford's Tractor Division, said last week that tractors were coming off the production line at Dagenham at the rate of 356 a day — the highest daily output ever achieved by the company.

Production during the first quarter of 1960, compared with the first quarter of 1959, showed an increase of 20.4 per cent. or 3,382 tractors.

Trade Section

NEW COMPANIES

The undermentioned particulars of new companies recently registered are taken from the daily register compiled by Jordan and Sons, Ltd., company registration agents, 116 Chancery Lane, London, W.C.2:—

Burrows (Builders), Ltd. £4,000. Directors: Wm. H. Burrows and Margaret A. Burrows, 276 Cotmanhay Road, Ilkeston.

Y. J. Lovell (Bucks.), Ltd., builders. £1,000. Directors not named. Subscribers: Harry D. Swales and Clive J. G. Lewis, 45 Bloomsbury Square, W.C.1.

Y. J. Lovell (London), Ltd. Details similar to Y. J. Lovell (Bucks.), Ltd.

Y. J. Lovell (Sussex), Ltd. Details similar to Y J. Lovell (Bucks.), Ltd.

Rose-Sheldrake Decorations, Ltd., 185 Hainault Road, E.11, builders. £100. Directors John A. Rose, 21 Radcliffe Avenue, N.W.10; Cyril A. Rose, Minerve Cottage, Sedrup Green, near Aylesbury; Charles S. Sheldrake.

Jas. Burges and Sons, Ltd., Wycliffe Road Works, Wimbledon, S.W.19, builders. £3,000. Directors: John F. Smith, 143 Stavordale Road, Carshalton, Surrey; Walter Woodcock, 122 Albert Road, Epsom, Surrey.

S. and B. Parkes Building Co,. Ltd., 127-129 Highgate Road, Birmingham, 12. £100. Directors: Wilfred S. Parkes, 12 Severne Road, Acocks Green, Birmingham, 27; Benjamin W. Parkes, 64 Watson Road, Alum Rock, Birmingham, 8.

David Lax (Builders), Ltd., Woodifield Hill, West Road, Crook, Co. Durham. £400. Directors: David G. Lax and John J. Lax, Pentavalon, Woodifield Hill, West Road, Crook, Co. Durham.

Priory Construction Co. (Worthing), Ltd., 6 Priory Close, Worthing. £100. Directors: Edward E. Carter, 10 Sandwich Road, Worthing; Raymond E. Goodsall, 6 Priory Close, Worthing.

Stockbuildings, Ltd., Windover House, St. Ann Street, Salisbury, consulting planners, architects and engineers. £2,000. Director: Gerald D. Ffiske, Charlton All Saints, Salisbury.

J. Barnes and Sons (London Wall), Ltd., Copthall House, 13 Copthall Avenue, E.C.2, builders. £100. Directors: John C. Barnes and Violet L. Barnes, 149 Manners Way, Prittlewell, Southend-on-Sea.

George Paine and Son (Developments), Ltd., 690 Lea Bridge Road, E.10, civil engineers, public works contractors, etc. £1,000. Directors: George H. Paine and Marjorie Paine, Parsonage Measure, Piercing Hill, Theydon Bois, Essex; Arthur C. Punshon, 52 Forest Drive West, E.11.

G. L. Finch and Son, Ltd., builders and contractors. £5,000. Permanent directors: Marion Finch and Geo. L. Finch, 25 Springfield Avenue, Stockton-on-Tees.

Porter, Sons and Co., Ltd., Brookfield House, Station Road, Clowne, Derbys., builders. £3,000. Directors: Eva Porter, 7 Gapstick Lane, Clowne, Derbys.; Maurice G. Porter, Beechen House, Goose Green, Lyndhurst, Hants; Terence J. Porter and Colin Rice.

Morris of Ashford, Ltd., 66 Ashford Avenue, Ashford, Middx., builders. £500. Directors: Henry V. Morris, 27 Percy Avenue, Ashford; John D. Morris, 66 Ashford Avenue, Ashford; Sidney W. Morris and Ronald A. Morris.

Emid, Ltd., builders. £100. Directors: Peter H. Scott, 22 Moreton Road, South Croydon, Surrey; Allan L. Middleton, 64 Fairlawn Park, Sydenham, S.E.26.

Home Design, Ltd., builders. £100. Directors: Richard W. Davis, Philip H. Streatfield and Elizabeth M. Streatfield, all of Plovers Barrows, Buxted, near Uckfield.

H. Bottomley and Sons (Builders), Ltd., Court Chambers, North Street, Keighley. £7,000. Directors: Herbert Bottomley, Moor Edge, Gott Street, Cross Roads, Keighley; Derek Bottomley, 34 Cross Roads, Keighley; Margaret E. Bottomley and Keith Bottomley.

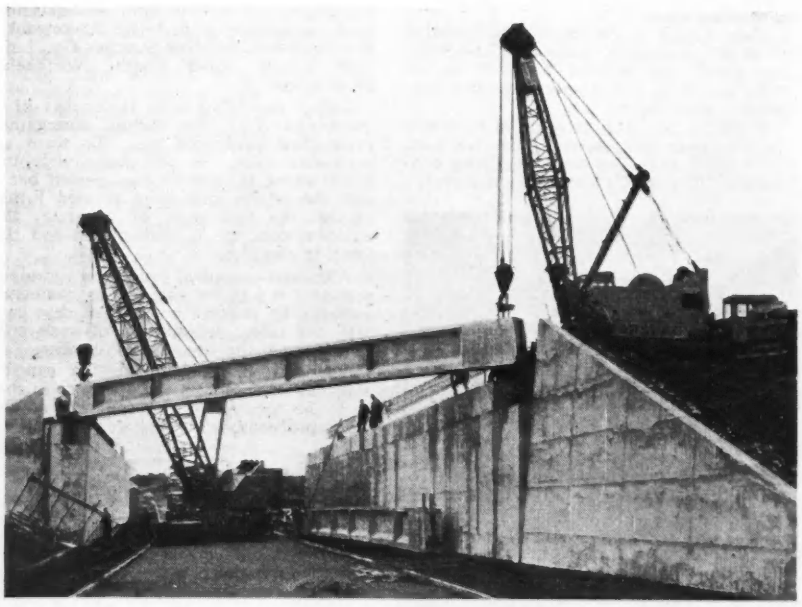
James Heaton, Ltd., 3 Camden Place, Preston, builders. £10,000. Directors: James T. Heaton, 1 Trafalgar Road, Birkdale, Southport; Mrs. Gladys J. Heaton, 1 Trafalgar Road, Birkdale, Southport.

J. W. Geary (Contractors), Ltd., 6 Bywood Avenue, Croydon, builders. £1,000. Directors: John W. Geary, 80a St. Augustines Avenue, South Croydon; Mrs. Cissie D. Geary, 80a, St. Augustines Avenue, South Croydon.

S. Barnett (Builders), Ltd., School House, Fitz, Montford Bridge, Shrewsbury. £5,000. Directors: Anthony G. Walters, The Poplars, Upper Pulley, Bayston Hill, near Shrewsbury; Stanley W. Barnett, School House, Fitz, Montford Bridge, Shrewsbury.

Alan Howard (Builders), Ltd. £100. Directors: Reginald R. Jacobs and Alan H. Jacobs, 112 Roman Road, Basingstoke.

R.C. Construction (Wales), Ltd., 21 Dyfodwg Street, Treorchy, builders. £1,000. Directors: Ronald C. Webb, 21 Dyfodwg Street, Treorchy; Thomas R. Brassington, White Bungalow, Dinas Powis; Raymond G. James.



Construction of the Doncaster dual-carriageway by-pass has been speeded up by the use of lorry-mounted cranes for placing the bridge beams on the Harworth flyover. Tarslag, Ltd., used two machines—a 50-tonner with a 50ft. jib, and a 25-tonner with a 30ft. jib—to lift 18 precast, prestressed beams into position. Each beam was 78ft. long and weighed 36 tons and the lifting time for each, including off-loading and positioning, was one hour. The beams were supplied by Ferro-Concrete and Stone (North Notts.), Ltd. The main contractors are Sir Robert McAlpine and Sons, Ltd.

R. Fitzsimmons and Son, Ltd., builders. £1,000. Directors: George J. Fitzsimmons, 3 The Meads, Bricket Wood, St. Albans; Richard Fitzsimmons, 8 The Meads, Bricket Wood, St. Albans.

Bowims Building Co., Ltd. £100. Directors to be appointed by subscribers. Subscribers: Jean Herbert (company director) and Thos. A. Herbert (barrister), 156 Strand, W.C.2.

Anglia (Building Construction) Co., Ltd., £100. Directors: Ivor G. Fowler, 1 Lodge Villas, Woodford Green, Essex; Doris E. Thompson, 64 Lansdowne Road, Woodford, E.18.

Banbury Built, Ltd., Martins Bank Chambers, Banbury, Oxon, manufacturers of precast concrete buildings, etc. £100. Directors: Fredk. Spencer, Church Farm, Shotteswell, near Banbury; Albert A. Spencer, Ivy Cottage, Shotteswell, near Banbury.

Far Green Plant, Ltd., Crown Works, Chell Street, Hanley, Stoke-on-Trent, constructional plant, etc. £10,000. Directors not named. Subscribers: Anthony Chidlow, 32 Berwick Road, Sneyd Green, Hanley, Stoke-on-Trent; Eric Glaze, 16 Greenbank Road, May Bank, Newcastle, Staffs.

K. S. T. Builders (Rickmansworth 1960), Ltd. £100. Directors: Sidney A. H. King and Lionel C. Smith, addresses not stated. Subscribers: Miss N. P. Duffy, 37 Harwood Avenue, Bromley, Kent; Ian P. Snow, 76 Thames Drive, Leigh-on-Sea (clerk).

McCoy and Co., Ltd., builders. £500. Director: Thomas McCoy, 45 Southerton Road, Hammersmith, London, W.6.

Tower Construction Co., Ltd., 6th Floor, 40-42 Oxford Street, London, W.1. £100. Directors: Wm. M. Pullin, 11 Kingswood Avenue, Sanderstead, Surrey; Tony B. Coles, 20 Sunset Avenue, Woodford Green, Essex.

Bowen and Pearce, Ltd., building. £1,000. Permanent directors: Eric Bowen, 1 Tipton Road, Tividale, Tipton; Stanley H. Pearce, 7 House, 1 Court, Lower Church Lane, Tipton.

E. J. Dyer and Son, Ltd., Balfour House, 119-125 Finsbury Pavement, London, E.C.2, builders. £2,000. Directors: Edwd. J. Dyer and Michael J. Dyer, 120 Fortess Road, London, N.W.5.

T. and B. Bagley, Ltd., builders. £1,000. Directors: Thomas R. Bagley and Mrs. Brenda Bagley, 253 Walsall Road, Perry Bar, Birmingham, 22B.

Herbert Pool and Garrett, Ltd., Station Approach, Fleet, Hants., builders. £5,000. Directors: Herbert H. Pool, "Manipur," Branksomewood Road, Fleet, Hants.; Eric A. Garrett, Towpath Cottage, Fleet Road, Fleet, Hants.

J. E. Whittlesey, Ltd., builders. £1,000. Directors: Joseph E. Whittlesey, 13 Winster Close, Lenton Abbey, Nottingham; Margaret Tanner, 7 Lamcote Gardens, Lamcote Estate, Radcliffe-on-Trent.

Cox and Ringham, Ltd., builders. £100. Directors: Owen C. Cox, 55 Waddon Park Avenue, Croydon; William C. Ringham, 9 Masons Road, Croydon.

Davies and Hawker (Penhow), Ltd., builders. £1,000. Directors: Robert C. Davies, Castle View, Penhow, near Magor, Mon.; Kenneth Hawker, Myrtle Cottage, Llandevaud, near Newport, Mon.

Medway Ready Mixed Concrete Co., Ltd. £100. Directors not named. Subscribers: Clive Burgess, 18 Curtis Road, Hounslow, Middx. (clerk); Peter W. Frost, 71 Kingston Road, Wimbledon, London, S.W.19 (clerk).

Royston Precast Concrete, Ltd., Heath Works, Baldock Road, Royston, Herts. £150. Directors: John R. Cox, The Sycamore, Royston, Herts.; Gerald B. Wallace, 5 Baldock Street, Royston, Herts.; Richard H. Braybon, 169 North Street, Brighton.

Trimbilt, Ltd., builders. £100. Directors to be appointed by subscribers. Subscribers: Jean Herbert (company director) and Thos. A. Herbert (barrister), 156 Strand, London, W.C.2.

T. W. Raper and Co., Ltd., 103-109 Queen Street, Sheffield, 1, builders. £5,000. Directors: Harold D. Hepworth, 349 Queen Mary Road, Sheffield, 2; Rowland Gibbs, 36 Hallam Grange Road, Sheffield, 10.

Day and Newland, Ltd., 22 Russell Street, Brighton, builders. £1,000. Director: William R. Day, 81 Shirley Street, Hove.

A. V. Willis and Son, Ltd., builders. £2,000. Directors: Albert V. Willis, senior, (permanent) and Mrs. Mabel F. I. Willis, 171 Cumnor Hill, Oxford; Albert V. Willis, junior, 178 Cumnor Road, Lower Wootton, Oxford.

Chilton and Davies, Ltd., 38 Dunraven Pl, Bridgend, builders and general public works £15,000. Directors: David J. Chilton, 1 Suffolk Place, Ogmore Vale, near Bridgend; Dilwyn J. Davies, Bradfield House, Bradfield Avenue, Bridgend; Alcwyn G. James, 9 St. John Street, Ogmore Vale, near Bridgend.

C. Richards (Builders), Ltd., Springfield, Redbroke Road, Camborne, Cornwall. £100. Directors: Cyril Richards and Mrs. N. M. Richards, Springfield, Redbrooke Road, Camborne, Cornwall.

Current Constructional Activities

PROJECTS • CONTRACTS • AWARDS

THIS editorial feature provides readers with a comprehensive news service covering forthcoming private and public construction work. Commencing on this page information is given concerning future projects followed by details of tenders being invited. In the third section will be found news of tenders recommended for acceptance, tenders accepted and contracts awarded. Attention is also drawn to the advertisements covering contracts and appointments appearing in the front part of the *Journal*.

BUILDING AND DECORATING
(See also Housing Schemes)

Ashington, Northumb. — D. Brown 10 Lambton Road, Jesmond, Newcastle upon Tyne, has been appointed architect by C.C. for a proposed R.C. secondary school at Ashington.

Ayr.—Dean of Guild Court have approved the following: Erection of a shop and showroom in Main Street, for B. D. Cowan and Sons, Ltd., 166 Howard Street, Glasgow, estimated cost £3,000; erection of timber storage shed at John Street, for William Alexander and Sons, Wallacetown Sawmills, £2,000; erection of a garage, workshop and bicycle shed at Belmont Road, for C.C., £1,700; erection of stores at 31 Beresford Terrace, for Parkhouse Development Co., Ltd., £1,450.

Barking, Essex. — Francis J. Tingey, 29a Longbridge Road, is the architect for erection of a multi-storey car park (stage one) at 50 Cambridge Road, for Cambridge Garages (Barking), Ltd.

Barnoldswick, Yorks.—U.D.C. propose the erection of swimming baths on a site adjacent to Harrison Street. Estimated cost £49,500.

Basingstoke, Hants.—B.C. recommended to invite tenders for the erection of a temporary prefabricated building to be sited on the western boundary of the garden adjoining the War Memorial Park bowling green. Estimated cost £4,650.

Bexley, Kent.—E.C. have approved sketch plans for a youth centre at the corner of Lovel Avenue and Upper Wickham Lane, Welling. Estimated cost £28,000.

Bishop Auckland, Dur.—Cordingley and McIntyre, Owengate, Durham City, are the architects for proposed Methodist Church and hall on Woodhouse Close estate.

Blackburn, Lancs.—M.E. have approved the erection of a St. Joseph's R.C. Secondary Modern Girls' School in the 1960-61 building programme.

Boldon, Dur.—Sykes and Son, Fuller Road, Sunderland, are to carry out alterations to provide mineral water factory. The architects are G. T. Brown and Son, 14 Grange Terrace, Sunderland.

Brandon, Dur. — N.C.B., Beamish Hall, Stanley, Co. Durham, are to erect offices at Pit House Colliery, and have prepared their own plans.

Brentford and Chiswick, Middx. — B.C. recommended to approve improvements to Chiswick open air swimming pool. Estimated cost £3,000.

Clitheroe, Lancs.—Work to commence this summer on the erection of the Aighton, Bailey and Chaigley Memorial Hall. Estimated cost £9,000-£10,000.

Cowley, Middx.—School Governors of St. Lawrence Church School propose a five-classroom extension. Estimated cost £20,000.

Darlington, Dur.—B.C. has approved outline plans for the first stage of new municipal buildings.

Dudley, Worcs.—B.C. recommended to approve plans and prepare bills of quantities for the erection of 72 garages at Hinbrook Road site; invite tenders for the external decoration of houses at Lodge Farm estate.

Eccles, Lancs. — B.C. recommended to approve plans for erection of a block of five shops, with flats over, on site of 45 to 53 Liverpool Road, for Burns-Anderson, Ltd., 479 Eccles New Road, Salford, 5.

Edinburgh.—City Council have approved in principle a scheme for the complete modernisation and reconstruction of the St. James Square, Little King Street and Leith Street area. The scheme includes an 18-storey Government block, residential flats, shops and probably an hotel.

Felling, Dur.—The Hackbridge Cable Co., Ltd., Hackbridge, Brentford, Surrey, propose offices, warehouse and storage facilities at Hepburn Gardens.

Finsbury. — L.C.C. approved a scheme for extension of the drill-yard, erectin of a drill-tower and other works at Clerkenwell fire station. Estimated cost £51,000.

Frindsbury Extra, Kent. — Parish Council have prepared plans for the erection of a Village Hall.

Gateshead, Dur. — J. W. Capstaff, Ltd., Benton, Newcastle upon Tyne, are to erect 25,000 sq. ft., transport depot on Team Valley trading estate. No contracts let. The architect is M. L. Kubik, 14 Meridian Way, Newcastle upon Tyne. 7. The Bren Manufacturing Co., Ltd., Team Valley estate are to carry out factory extensions covering 35,000sq. ft. The architects are G. H. Gray and Partners, Portland Terrace, Newcastle upon Tyne.

Glasgow.—Scottish Home Department are preparing plans for a new remand centre and prison near Glasgow. Work is likely to commence next year.

Harefield, Middx.—C.C. recommended to approve the erection of an old people's home on Knightscote Farm. Estimated cost £69,760.

Harrogate, Yorks. — Samuel Jackson and Son, Ocean Chambers, Piccadilly, Bradford, 1, are the architects for new supermarket in Cambridge Street, for Thrift Stores, Ltd.

Hexham, Northumb. — Plans approved for a stores rebuilding scheme in Fore Street, for W. Robb and Son, Ltd. The firm have prepared their own plans, and a contract will be let within a few weeks.

Heywood, Lancs. — B.C. recommended to approve plans, in principle, for erection of new Civil Defence headquarters in Taylor Street.

Holborn.—L.C.C. approved the modernisation of Shene Buildings, Bourne estate. Estimated cost £22,549.

Huddersfield, Yorks.—Work is expected to commence at the end of the year on the first stage of the rebuilding of St. Mark's Parish Church, Longwood. Estimated cost £4,000.

Hull.—E.C. have approved scheme for extensions to Training College, including the preparation of grounds and playing fields. Estimated cost £360,705.

Ilford, Essex.—B.C. recommended to invite tenders from selected contractors for the erection of the new building at Ilford Lane.

Lambeth. — B.C. recommended to appoint Walters and Wheatley, Sicilian House, Sicilian Avenue, Southampton Row, London, W.C.1, as the quantity surveyors for development of site 137 at Binfield Road and Lansdowne Way, to include a building works depot and estate office.

Leeds.—E.C. recommended to approve plan for adapting Lawns House to provide additional accommodation for Day Training College. Estimated cost £3,000.

Leyburn, Yorks.—Hartley and Son, Swadford Chambers, Skipton, Yorks., prepared plans for alterations and additions to West Burton village hall.

Loughborough, Leics. — B.C. recommended to grant planning permission for the erection of two shops, with flats over, at corner of Brookside Road and Valley Road, for W. Corah and Son, Ltd., Pinfold Gate Works.

Luton, Beds.—B.C. recommended to approve plans for the central library and proceed with plans for extensions to Dallow Road clinic; approve revised layout for new cleansing garage and submit to Local Education Authority, for approval, scheme for adaptation of classroom and hall at Hitchin Road junction. Estimated cost £65,000 and £1,015, respectively.

Newbiggin, Northumb.—U.D.C. considering an application by Hartley Caravans, Ltd., for laying out of a caravan site at North Seaton Links. The work includes the provision of caravans, drainage, septic tank, lavatory blocks, and amenity buildings. The architects are Richard Turley and Associates, 46 Jesmond Road, Newcastle upon Tyne.

Oxford. — Robert Matthew and Johnson-Marshall, 24 Park Square East, London, N.W.1, are the architects, and Crosher and James 329 High Holborn, London, W.C.1, the quantity surveyors for erection of a five-storey building for undergraduates' and fellows' accommodation and a two-storey seminary opposite the Master's Lodgings, Logic Lane, for the University College.

Pulborough, Sussex.—Parish Council have approved scheme for the provision of a new pavilion for the Playing Field. Estimated cost £3,000.

Rugby, War.—B.C. recommended, subject to Ministry approval, to invite tenders for the provision of covered lairage accommodation at the Cattle Market.

B.C. recommended to approve revised plans for the use of land for five shops, with living accommodation, at Watts Lane-Lower Street, Hillmorton, for Clarke Bros. (Leamington), Ltd., 34 Clarendon Street, Leamington Spa; plans for new shops and warehouse and two self-contained flats at Overslade Lane and alterations to existing premises to form new shop, warehouse and staff room, with flat over shop, at 274-276 Hillmorton Road, for the Rugby Industrial and Provident Co-operative Society, Ltd., 45 Chapel Street.

St. Marylebone.—B.C. recommended to appoint Arthur W. Kenyon Taute and Partners, 140 Park Lane, London, W.1, as the architects for development of 51-54 Beaumont Street, with a four-storey block for old people.

Smethwick, Staffs. — B.C. recommended to approve layout plans for the first stage of the development of Price Street shopping area, comprising a new library, an eight-storey point block and 17 shops with living accommodation above.

South Shields, Dur.—Promoters of new St. Cuthbert's R.C. Secondary School to negotiate price with J. Cummings, Matamba Terrace, Sunderland, for the erection of the second stage of the new school. The architects are Page, Son and Hill, 75 King Street.

Whiteleas and District Social Club are to lease land for extensions.

Stanley, Yorks. — U.D.C. to apply for sanction to borrow £3,094 for replacing fireplaces in 58 pre-war Council houses.

Stockton-on-Tees, Dur.—J. Walton Taylor and Son, St. James Buildings, Gallowgate, Newcastle upon Tyne, are the architects for showroom and warehouse in Wharf Street, for Henry Moat and Sons, Brandling Park, Newcastle upon Tyne.

Scott and Clark, Regent Chambers, Wednesbury, Staffordshire, are the architects for offices, showrooms, workshops and filling station at Skinner Street, for Aycliffe Properties, Ltd., Churchill House, Newton Aycliffe.

Stoke-on-Trent, Staffs. — City Council recommended to apply for sanction to borrow £20,600 for a new tractor and implement store, workshops and messroom, bowling pavilion, toilets and store at Hanley Park; £14,975 for tractor and implement accommodation, toilet improvements, greenhouse and extension to palm house at Queen's Park, Longton; £8,300 for enclosing of ground-floor and first-floor landings in 83 blocks of C.M.-type maisonnettes; prepare schemes for the provision of a children's paddling pool at Hanley Park and public conveniences at Stone Road, Trent Vale.

Sunderland, Dur. — A. Cameron and Sons, Hudson Road, are to erect offices and laboratory at Hendon Road. Matkin and Hawkins, architects, Barclays Bank Chambers, Fawcett Street. Scheme in early stages.

Sutherland.—Co. E.C. propose to erect a school in the village of Tongue. Estimated cost £16,000.

Sutton, Surrey. — South West Metropolitan Regional Hospital Board recommended to approve plans for the erection of a central boiler house at Sutton and Cheam Hospital, Cotswold Wing. Estimated cost £147,660.

Thornton Heath, Surrey.—South West Metropolitan Regional Hospital Board to have working drawings prepared for stage I of the development of Mayday Hospital. Estimated cost £293,780.

Ulverston, Lancs.—Co. E.C. have approved the erection of a new school clinic and child welfare centre in Victoria Road. Estimated cost £13,000.

Wallsend, Northumb.—D. Brown, 10 Lambton Road, Newcastle upon Tyne, is the architect for a proposed R.C. junior school at Holy Cross, for Co. E.C.

C.C. to erect junior school at Willington Quay. W. B. Edwards and Partners, architects, 5 Claremont Buildings, Newcastle upon Tyne, 1.

Wandsworth.—Working drawings are being prepared for the erection of the central block (theatres and dining rooms) at St. James' Hospital, Balham. Estimated cost £217,250. The consultants are: Devereux and Davies, architects, 3 Gower Street, Bedford Square, London, W.C.1; Carless and Adams, quantity surveyors, 65 High Street, Marlow, Bucks.; H. A. Sandford, consulting engineer, 2 Gate Street, Lincoln's Inn Fields, London, W.C.2,; Clarke, Nicholls and Marcel, structural engineers, 21 Westbourne Grove, London, W.2.

West Sussex.—E.C. have approved scheme for the erection of a youth centre to serve the Maybridge and Durrington area, Worthing. Estimated cost £19,150.

Managers of the Goring C. of E. School propose the erection of a new five-class school. Estimated cost £50,183.

Whiston, Lancs.—R.D.C. Planning Committee have approved detailed plans for erection of a two-form entry R.C. infants' school in Shaw Lane.

Wigan, Lancs. — Ministry of Works to submit to Planning Committee for approval plans for erection of new office block in Mesnes Street for Ministry of Pensions and National Insurance, etc. Estimated cost £59,300.

Withernsea, Yorks. — U.D.C. have approved plans for extensions to the Withernsea High School.

HEATING AND VENTILATING

Camberwell. — South East Metropolitan Regional Hospital Board recommended to approve the appointment of J. E. Greatorex and Partners, 15 Berners Street, London, W.1. as consultants for the installation of mechanical services in the nurse training school and ante-natal department at St. Giles' Hospital.

ROADS, BRIDGES AND SITE WORKS

Houghton-le-Spring, Dur.—U.D.C. have submitted to the Ministry a scheme for improvements to Blind Lane, Newbottle. Estimated cost £22,798.

Kensington.—L.C.C. approved a revised scheme for an interim improvement of the intersection of Cromwell Road and Earl's Court Road. Estimated cost £102,000.

Lambeth.—B.C. recommended to approve a programme of road and sewer reconstruction works during 1960-61. Estimated cost (roads) £48,483 and (sewers) £27,000.

Luton, Beds.—B.C. recommended to approve plans for making-up of Arundel Road, Austin Road and Dallow Road extension.

Rugby, War.—B.C. recommended to apply for sanction to borrow £3,000 for the construction of a car park on land surrounding The Retreat.

Stoke-on-Trent, Staffs.—City Council recommended to approve plans for making-up Oaktree, Albert, Leyland and Beechfield Roads, Trentham; prepare schemes for widening Palmers Green (part) Hartshill and Milton Road, Sneyd Green.

City Council recommended to submit to M.T. for approval and grant aid the following road improvement schemes: Waterloo Road, Cobridge, £9,380; London Road, Stoke, £8,080; Leek Road, Abbey Hulton, £2,630; Weston Road, Meir, £6,380; Mayne Street, Hanford, £3,075; Turnhurst Road, Packmoor, £6,950.

Westminster.—The first stage of the L.C.C.'s improvement scheme for the junction of Vauxhall Bridge Road, Millbank and Grosvenor Road at Bessborough Gardens, has been approved for grant by the M.T. The scheme provides for closing the existing diagonal road, constructing a new link road between the south-west and north-east arms of Bessborough Gardens and widening of the north-east arm and of Grosvenor Road. Estimated cost £153,000.

SEWERAGE, SEWAGE AND REFUSE DISPOSAL

Daventry, Northants.—B.C. recommended to invite tenders for the laying of a soil sewer to serve the industrial site at Long Marsh.

Erith, Kent.—B.C. propose the construction of a surface water sewer and pumps at Sandcliff Road, a pumping station at Church Manorway and the reconstruction of surface water sewers around Bedon Stream. Estimated cost £43,250, £15,250 and £60,000, respectively.

Loughborough, Leics.—B.C. recommended to apply for sanction to borrow £120,000 and £6,500, respectively, for stage one of the sewage disposal works extension scheme and the construction of a sewer from Westbridge to Valley Road.

STREET LIGHTING

Doncaster, Yorks.—B.C. recommended to approve amended scheme of lighting for roadways at crematorium. Estimated cost £1,250.

Lambeth.—B.C. recommended to approve a scheme for conversion of street lighting in Herne Hill, Lansdowne and Springfield wards from gas to electric lighting. Estimated cost £32,920.

Leicester.—City Council recommended to approve schemes for improving street lighting in 11 roads. Estimated cost £25,354.

Smethwick, Staffs.—B.C. recommended to apply for sanction to borrow £30,000 for scheme six of the programme for the replacement of gas lighting by electric lighting.

Stanley, Yorks.—U.D.C. have approved scheme for conversion from gas to group B electric lighting for Lake Lock Road, Lime Pit Lane, Baker Lane, Rooks Nest Road, Coash Road, Bolus Lane and Newton Lane, involving 119 lamps, and 30 lamps in Ferry Lane.

CONTRACTS

*Full details of the Contracts marked * will be found in our Advertisement Columns.*

BUILDING AND DECORATING

(See also Housing Schemes)

Accrington, Lancs.—External painting of municipal houses on the following estates, for B.C.: Plantation Road, 24; Dunnyshop Avenue, 33; Queen's Road West, 120; Perth Street, four; Station Road, Huncoat, eight; Station Road, Huncoat, 12. Contractors may tender for the whole of the work or for any particular part thereof. Documents from B. Hartley, borough engineer and surveyor, 44 Union Street, Accrington. Deposit £1. Tenders by April 23.

Ampthill, Beds. — External rendering and application of Cullamix to 3 and 5 High Street, Tingrith, for R.D.C. Documents from the Engineer and Surveyor, "The Limes," 12 Dunstable Street, Ampthill, Bedford. Tenders by April 19.

Arundel, Sussex.—Supply and erection of a wooden shed and chalets at open air swimming pool, contract three, for B.C. Documents from H. W. Simmonds, borough surveyor, Council Offices, High Street, Arundel. Deposit £2 2s. Tenders by April 25.

Ballycastle, Antrim.—New voluntary primary school for boys at Avenue Road, for Rev. Father J. M. Lynch: (Building contractors) (1) New primary school and site works; (2) attached servery. (Heating contractors) (1) Space heating to school building. (Plumbing contractors) (1) Plumbing installation in school building; (2) plumbing installation in servery. (Electrical contractors) (1) Electrical installation in school building; (2) electrical installation in servery. Documents for building works from W. H. McEvoy, building surveyor, 73 May Street, Belfast. Deposit £5 5s. Documents for mechanical installations from Varming and Mulcahy, consulting engineers, 37 Malone Road, Belfast. Deposit £5 5s. each. Plans also seen at the office of B. J. Simpson, chartered architect, 4 Malone Road, Belfast. Tenders by May 9.

Barnack, Peterborough.—External painting of 30 Council houses at Wansford, Thornhaugh and Ashton, for R.D.C. Documents from Council Surveyor, Council Offices, Broad Street, Stamford. Tenders by April 25.

Bedale, Yorks. — Repainting the following houses, for R.D.C.: Thornborough—four; Great Crakehall—one; Thirn—two; Leeming—six; Hackforth—two; South End Terrace, Bedale—10; Fitzalan Road, Bedale—18; Benkhill Drive, Bedale—13; Mowbray Crescent, Bedale—20; Glebe Close, Bedale—eight. Applications to Kenneth V. Shaw, architect, Oak House, Market Place, Bedale.

Belfast.—Following building work, for City Council: (i) The resurfacing of artificial stone sills, heads, mullions, string courses, etc., at Blythefield Junior Primary School, Blythe Street; (ii) erection of greenhouse and potting shed at Graymount Secondary School for Girls, Gray's Lane; (iii) alterations to lavatories and manual room at Seaview Primary School, Seaview Drive. Documents from Education Architect's Department, 40 Acadamy Street, Belfast, 1. Tenders by May 5.

Bexhill, Sussex.—Improvements (installation of hot water system, plastering to walls, floor tiling, etc.) to certain pre-war houses in the London Road area, for B.C. Documents from the Borough Surveyor, Town Hall, Bexhill. Deposit £2 2s. Tenders by April 25.

Blackpool, Lancs.—Erection of an electrical sub-station on North Shore Cliffs, to be commenced at an early date and completed in 10 weeks, for B.C. Documents from Borough Surveyor, Municipal Offices, Blackpool. Deposit £2. Tenders by April 21.

Blyth, Northumb. — Construction of convenience, tent storage and first aid post at Links Road, for B.C. Documents from the office of the Borough Engineer, Municipal Buildings, Seaforth Street, Blyth. Tenders by April 23.

Bournemouth, Hants.—Provision and erection of a garage building at Grafton Road, 90ft. x 32ft., in precast concrete units, for B.C. Details from and quotations to Borough Engineer, Town Hall, Bournemouth. Tenders by May 11.

Bury St. Edmunds, Suffolk.—Following, for B.C., construction of bathrooms and the installation of hot water heating systems, including the supply of tile fireplace surrounds, grates, baths and sinks where necessary to 46 houses in Cornfield Road, Springfield Avenue, Spring Lane, Mustow Street, and Vinery Road. Documents from the Borough Engineer and Surveyor, Borough Offices, Bury St. Edmunds. Tenders by April 29.

Cardiganshire.—Improvements to Blaenpant Farmhouse, Llanwenog, for C.C. Applications to the County Architect, County Hall, Aberayron, Cards. Tenders by April 20.

Chapel-en-le-Frith, Derbys. — External repainting of offices and 51 houses, for R.D.C. Documents from the Engineer and Surveyor, Council Offices, Hayfield Road, Chapel-en-le-Frith, via Stockport. Tenders by April 30.

Chatham, Kent.—Provision of 75 additional amenities to dwellings, for B.C., comprising external single doors and frames, and internal single and double doors and frames in Council houses in the Borough, together with about 130 super. yd. of screen walling at Weeds Wood estate. Documents from J. A. T. Richards, borough engineer and surveyor, Town Hall, Chatham. Deposit £1 1s. Tenders by April 25.

Cornwall.—Following sub-contracts at Bodmin County Secondary School, for C.C.: (a) Hardwood strip and wood block flooring; (b) polished granolithic flooring; (c) tarmacadam and surfacing to playing courts; (d) felt roofing; (e) curtaining; (f) electrical services. Applications to the County Architect, County Hall, Truro, by April 18.

Cornwall.—External painting and internal decorations and repairs at Callington County Primary Junior and Infants' Schools for C.C. Applications to the County Architect, County Hall, Truro, by April 19. Tenders by May 12.

Cornwall.—External painting and repairs at St. Ives County Secondary School, for C.C. Applications to the County Architect, County Hall, Truro, by April 19. Tenders by May 12.

Devizes, Wilts.—Erection of a new admission unit not exceeding two storeys (approx. 20,000 super. ft. within external walls) of traditional brick and reinforced concrete construction, with associated roadwork, car park, ducts and drainage, at Roundway Hospital, for Hospital Management Committee. Applications to M. O. Carter secretary, 27 Tyndalls Park Road, Bristol, 8, by April 16.

Devonshire.—Renovations at school premises during the summer holidays, for C.C. Applications to County Architect, 97 Heavitree Road, Exeter, by April 30.

Dunstable, Beds.—Installation of hot water systems, other improvements and the redecoration of 18 houses, West Street, Dunstable, for B.C. Documents from Housing Estates Manager, Priory House, Dunstable. Deposit £2 2s. Tenders by April 23.

Evesham, Worcs.—Extension to Merstow Green public convenience, for B.C., comprising the building of a ladies' public convenience. The external material to be used will match existing concrete block walling. The extension will cover a floor area of 12 sq. yd. Documents from the Borough Surveyor, 1 Leicester Gables, High Street, Evesham. Deposit £2 2s. Tenders by April 20.

Glamorgan.—Erection of a garage, with storage loft over, in the grounds of Cogan Pill House, near Penarth, for C.C. The building is to be constructed in brick, with tiled roof; external dimensions 20ft. by 20ft. Documents from E. John Powell, county surveyor, Glamorgan County Hall, Cardiff. Tenders by April 22.

Glamorgan.—Following works, for C.C.: (1) Pontardawe Police Station—proposed alterations; (2) two pairs of houses Rhydhir—Longford housing estate—Neath Abbey; (3) one pair houses, Blue Street, Llantrisant. Documents in respect of (1) from the Pontardawe Police Station, (2) and (3) at the Rhydhir Cottage Station, Longford housing estate, Neath Abbey, and Llantrisant Police Station, respectively, or at the County Police Architect's Department, Brigend. Deposit £2 2s. each. Tenders by April 20.

Glendale, Northumb.—Erection of public conveniences and waste paper store on land adjacent to the Council Offices, for R.D.C. Documents from the Surveyor, Council Offices, Wooler. Deposit £2 2s. Tenders by May 25.

Gosport, Hants.—Old people's homes, Milvil Road, Lee-on-the-Solent, for B.C., comprising the conversion of the existing property known as Queen's Lodge, to old people's homes consisting of 11 bed-sitting rooms with warden's flat, common room and ancillary works. Appli-

cations to the Acting Borough Engineer, The Hall, Haslar Road, Gosport. Deposit £2 2s.

Gower, Glam.—Following work, for R.D.C.: (a) The installation of w.c.s, lavatory basins, sinks, new baths, plumbing and drainage, etc., in 52 houses situated at Penclawdd, Three Crosses and Dunvant; (b) the erection of extensions with bathrooms in four houses situated at Llanmadoc and Landimore. Contractors may tender for both or either of the contracts. Documents from the offices of the Engineer, 19 Uplands Crescent, Swansea. Tenders by May 12.

***Grimsby, Lincs.**—Construction of indoor swimming pool, for B.C. Apply by April 25.

***Hartlepool, Dur.**—Erection of community centre, for B.C. Deposit £2. Tenders by May 7.

Hemel Hempstead, Herts.—External painting of 63 houses at Markvate, Flamstead and Great Gaddesden, for R.D.C. Documents from the Engineer and Surveyor, Council Offices, The Bury, Bury Road, Hemel Hempstead. Tenders by May 2.

Herefordshire.—Interior and exterior decorating and minor repairs at various schools during the summer holidays, for C.C. Applications to the County Architect, Bath Street, Hereford, by April 20.

Horbury, Yorks.—Following, for U.D.C.: Internal decorations to the Town Hall; external repainting 247 houses (in groups). Documents from the Engineer and Surveyor, Town Hall, Horbury. Tenders by April 23.

Hull.—Following, for Leeds Regional Hospital Board, stage II development at Hull Maternity Hospital, Hedon Road, comprising, in single-storey building, a ward unit, a radiography department, and a boiler house. Applications to the Architect to the Board, Park Parade, Harrogate, Yorks., by noon, April 21. Deposit £2 2s. (cheques payable to the Board). Plans also seen at the office of the Superintendent Engineer, 33 Albion Street, Hull.

Hungerford, Berks.—Erection of lock-up garages and ancillary works at the two undermentioned sites, for R.D.C.: Woodbury, Lambourn—24; The Crescent, Kintbury—10. Documents from the surveyor, E. L. Hawkins, The Priory, Hungerford. Deposit £2, cheques payable to R.D.C. Tenders by April 27.

Islington.—Provision and erection of a steel-framed open-fronted storage shed, approximately 32ft. by 22ft., with asbestos roof and spandrel sheeting, for B.C. Documents from the Borough Engineer and Surveyor, Town Hall, Upper Street, Islington, N.1. Tenders by April 28.

Lanarkshire.—Following, for C.C. First phase of the erection of the new 17-storey reinforced concrete-framed offices and ancillary Council accommodation at Hamilton, including (1) Excavations and site preparation; (2) reinforced concrete frame including tower block 17 storeys high. Written applications to D. G. Bannerman, county architect, 34 Albert Street, Motherwell, by April 22.

Lanarkshire.—Several works (all trades) in connection with the erection of a new R.C. Primary School at Whitehill, Hamilton, for 340 pupils, for C.C., comprising the following tiling; plumber; plaster; tile and terrazzo; trades: Excavator, concrete, and brick, etc.; carpenter, joiner, and ironmonger; metal windows; glazier; metal decking roofing; roof heating; electrical; floor finishes; painter. Written applications to Ian V. Paterson, county clerk, Lanarkshire House, 191 Ingram Street, Glasgow, C.1, by April 20. When applying for schedules principal contractors must submit to the C.C. for prior approval the names of sub-contractors from whom they intend to take offers.

Leicester.—Erection of gymnasium and changing room at Wycliffe Secondary School, Hamelin Road, for City Council. Documents from the City Architect's Office, 10 Luseby Lane, Leicester. Deposit £2, cheques payable to City Treasurer. Tenders by April 26.

Loddon, Norfolk.—External painting of 162 houses and 19 garages in the following parishes, for R.D.C.: Aldeby, six houses; Claxton, eight houses; Ditchingham, 42 houses; Ditchingham, seven garages; Ellingham, 12 houses; Hales, 14 houses; Heckingham, two houses; Hedenham, two houses; Loddon, 28 houses; Loddon, nine garages; Seething, eight houses; Thurlton, 16 houses; Thurlton, two garages; Thurton, 10 houses; Woodton, 14 houses; Woodton, one garage. Applications to the Housing Officer, Council Offices, Loddon, stating the sites in which interested. Tenders by April 27.

Londonderry.—(1) Building work; (2) mechanical engineering services; (3) electrical engineering services at Templemore Special Care Centre, Acadamy Road, for the Northern Ireland Hospitals Authority. Applications stating clearly for which item firms wish to tender to the Secretary, N.I. Hospitals Authority, 27 Adelaide Street, Belfas, 1, by 5 p.m., April 20.

Manchester.—Supply, delivery and fixing of all balustrading and handrailing at Wythenshawe baths, for City Council. Documents from City Architect, P.O. Box 488, Town Hall, Manchester. Tenders by April 27.

Mildenhall, Suffolk.—Alteration and additions and provision of hot water services to 22 houses at West Row, six at Icklingham, two at Worlington and six at Tuddenham, for R.D.C. Documents from the Engineer and Surveyor, Council Offices, King Street, Mildenhall. Tenders by May 2.

Neath, Glam.—Painting of 509 houses situate in various parts of the area, for R.D.C. Documents from the office of the Engineer and surveyor, 18 Orchard Street, Neath. Deposit £1 1s. Tenders by April 26.

Newcastle-under-Lyme, Staffs.—Erection of shelter and conveniences at Lilleshall Road Recreation Ground, for B.C. Documents from the Borough Surveyor, Lancaster Building, High Street, Newcastle, Staffs. Tenders by April 21.

Newton Abbot, Devon.—External painting of 52 houses, for U.D.C. Applications to the Surveyor, 18 Devon Square, Newton Abbot.

Northam, Devon.—Erection of public conveniences at Westward Ho!, for U.D.C. Documents from the Surveyor, Council Offices, Northam. Deposit £1 1s. Tenders by May 4.

Northern Ireland.—External repainting of: (a) 226 dwellings at Dunmurry (section 1), and (b) 318 dwellings at Carrickfergus (section 2), for Northern Ireland Housing Trust. Documents from the Offices of the Trust, 12 Hope Street, Belfast, 12. Tenders by April 22.

Omagh, Tyrone.—External painting of approx. 100 houses which are split into blocks for U.D.C. Contractors may tender for one, any or all of the blocks. Documents from the Town Surveyor, Town Hall, Omagh. Tenders by April 21.

Omagh, Tyrone.—Painting of 167 traffic sign posts, for U.D.C. Documents from the Town Surveyor, Town Hall, Omagh. Tenders by April 21.

Otley, Yorks.—Extension of a single-storey canteen building at the Ministry of Pensions and National Insurance office at 11 Bondgate, for U.D.C. Documents from the office of the Surveyor, Council Offices, North Parade, Otley. Deposit £2 2s., cheques payable to U.D.C. Tenders by May 5.

Oxford.—Minor repairs and external painting or internal redecoration of school premises, for City Council. Documents from the City Architect and Planning Officer, Town Hall, Oxford. Tenders by April 22.

Peterborough.—Adaptation to 12 Dogsthorpe Road, for C.C. Documents from the County Surveyor, County Offices, Bridge Street, Peterborough. Deposit £2 2s. Tenders by April 21.

Peterborough.—Repairs to and re-covering of flats roofs at Lincoln Road Secondary Boys' School, Lincoln Road, for The Joint Education Board. Documents from Warwick and Ellis, architects, 43a Priestgate, Peterborough. Tenders by April 25.

Pocklington, Yorks.—External painting of 114 houses in the following parishes, for R.D.C.: Bolton—two; Hayton—eight; Melbourne—four; Millington—six; Sancton—16; Seaton Ross—four; Thornton—eight; Wilberfoss—22; Market Weighton—16; and Pocklington—28. Applications, stating whether it is the intention to tender for all or any group of the houses, to the Clerk of the Council, Council Offices, Grove House, Pocklington. Tenders by May 13.

Queensbury and Shelf, Yorks.—External pointing of 24 houses, Burnley Hill Terrace, Shelf, for U.D.C. Documents from G. A. Muse, housing manager, Council Offices, Albert Road, Queensbury, Bradford. Tenders by April 25.

***Salford, Lancs.**—Kitchen extension at Broughton Jewish Primary School, Park Lane, for City Council. Deposit £2 2s. Tenders by April 25.

***Salford, Lancs.**—Modifications to Frederick Road Transport Depot, for City Council. Deposit £5 5s. Tenders by May 23.

Shannon, Eire.—Erection of two buildings at Shannon Airport to house radio equipment, for Department of Transport and Power. Documents from Room 503, Department of Transport and Power, Kildare Street, Dublin. Deposit £3. Tenders by April 20.

Shrewsbury, Salop.—External painting of houses in the following groups, for B.C.: Contract 1—100 houses at Judith Butts Gardens, part I; contract 2—122 houses at Meadows estate, parts II and III. Documents from A. T. Morris Borough Surveyor, Guildhall, Shrewsbury. Tenders by April 25.

Stanley, Yorks.—External painting of 126 houses and 38 prefabs, for U.D.C. Documents from D. Walker, public health inspector, Council Offices, Coach Road, Outwood, near Wakefield.

Stanley, Yorks.—Fixing of 58 replacement fireplaces, for U.D.C. Documents from D. Walker, Council Offices, Coach Road, Outwood, near Wakefield. Tenders by April 25.

Sunderland, Dur.—Provision of scullery (school meals) at Hudson Road Secondary Modern Girls' School, for B.C. Documents from the Director of Education, 15 John Street, Sunderland. Tenders by April 19.

Swansea.—Alterations and additions to Morriston (Martin Street) Junior Boys' School, for B.C. Applications to the Borough Architect, The Guildhall, Swansea, by April 19. Deposit £2.

Teignmouth, Devon.—Asphalting roofs of outbuildings to approximately 73 houses in Fourth Avenue and Coleman Avenue, for U.D.C. Documents from the Surveyor's Department, Council Offices, Bitton House, Teignmouth. Tenders by April 19.

Truro, Corn.—Repairs and decoration to the public convenience and shelter at Porthowan, for R.D.C. Documents from the Building Surveyor, Rural Council Hall, River Street, Truro. Tenders by April 19.

***Uttoxeter, Staffs.**—Repair of fire damage at the Old Brewery, High Street, for U.D.C. Deposit £2. Tenders by May 3.

Ventnor, I. of W.—External decoration of 16 houses in the Upper Ventnor area. Documents from the Surveyor, Salisbury Gardens, Ventnor. Tenders by April 25.

Wandsworth.—External painting works at Roupell Park estate, Holmewood Gardens, S.W.2 (152 dwellings in three eight-storey blocks), for B.C. Applications, giving details of experience and plant available, together with the names of two technical and two financial referees, to J. Noel Martin, town clerk, Municipal Buildings, Wandsworth, S.W.18, by April 20.

West Mersea, Essex.—External painting of the following, for U.D.C.: Twelve houses, Bardfield Road; 14 houses, Upland Road. Documents from the Surveyor, Council Offices, West Mersea. Tenders by April 19.

West Riding.—Supply and fitting of 21 flow meter—fuel oil dispensers at various depots, for C.C. Documents from the County Engineer and Surveyor, County Hall, Wakefield. Tenders by April 25.

West Riding.—Internal and external painting at various schools in the Morley division, for C.C. Documents from J. E. Littlewood, divisional education officer, Education Office, Morley. Tenders by April 22.

West Suffolk.—Erection at Lakenheath County Primary Schools of sanitary offices (approximate area 750 sq. ft.), conversion of existing cloaks into lavatories and drainage therefrom, for Co. E.C. Applications to the County Architects, 13 Westgate Street, Bury St. Edmunds, by April 20. Tenders by May 16.

***Weymouth and Melcombe Regis, Dorset.**—Erection of public conveniences, for B.C. Apply by April 22.

Whalley, Lancs.—External painting of administrative block at Calderstones Hospital, for Management Committee, the work to be completed not later than September 30, 1960. Documents from the Group Secretary, Calderstones Hospital, Whalley. Tenders by April 19.

Wigston, Leics.—External repainting of 250 houses and bungalows and nine garages in one or two contracts (part I—170 houses and bungalows and nine garages; part II—80 houses), for U.D.C. Documents from the Engineer and Surveyor, Council Offices, Wigston. Deposit £3 3s., cheques payable to U.D.C. Tenders by April 23.

Worcestershire.—Extensions at Ashton-under-Hill County Primary School, for C.C. Applications to L. C. Lomas, county architect, 14 Castle Street, Worcester, by April 20.

Wrexham, Denbighs.—External painting of the following, for B.C.: (1) Three hundred dwellings and 22 garages; (2) 289 dwellings and 13 garages; (3) 270 dwellings and 24 garages. Documents from Borough Engineer and Surveyor, 31 Chester Street, Wrexham. Deposit £1 1s. Tenders by April 26.

Yeovil, Som.—Reconstruction of public baths, for B.C. The building consists of: (1) Pool hall 119ft. by 64ft. by 30ft. high, containing one pool 100ft. by 35ft. by 12ft. 6in. deep; spectators' gallery for 350 persons; (2) main entrance hall with changing room under and meeting room and plant room above. The construction will be steel-framed superstructure with brick and curtain wall claddings, and includes the construction of a new pool in reinforced concrete. Work will commence on site in October. Applications to A. Heal, borough surveyor, Municipal Offices, King George Street, Yeovil, by 10 a.m., April 20, giving details of organisation and experience.

CLOTHING AND TEXTILES

Lincoln.—Supply of protective clothing to the various departments, for City Council. Documents from J. Harper Smith, town clerk, Town Clerk's Office, Lincoln. Tenders by April 22.

Newcastle upon Tyne.—Supply of uniform clothing for the River Tyne Police Force, for

Tyne Improvement Commission. Documents from R. N. Eggleton, secretary, Bewick Street, Newcastle upon Tyne, 1. Tenders by May 3.

Newcastle upon Tyne. — Supply and delivery in 1960 of the following fire service clothing and personal equipment, for Newcastle and Gateshead Joint Fire Services Committee: Caps, officers; caps, firemen; shoes, officers; shoes, firemen; fire tunics, D.B.; fire trousers; overalls, bib and brace; undress uniforms, officers; undress uniforms, firemen; socks, black; shirts and collars, white, officers; shirts and collars, blue, firemen; ties, black; belts, leather; pouches, leather. Documents from the Chief Fire Officer, Newcastle and Gateshead Joint Fire Services, Pilgrim Street, Newcastle upon Tyne, 2. Tenders by May 14.

***North Riding.** — Supply of ambulance service uniform, for C.C. Tenders by May 2.

Nottinghamshire. — Supply of fire service uniform clothing for C.C. Documents from the Chief Fire Officer, Fire Service Headquarters, Rolleston Drive, Arnold, Nottingham. Tenders by April 22.

Sutherlandshire.—Supply of uniform clothing for the police force, for C.C. Documents from A. J. Macrae, county clerk, County Offices, Golspie. Tenders by April 30.

DEMOLITION

Blackpool, Lancs.—Demolition and removal of materials comprising the buildings at Caunce Street Day Nursery, for B.C. Documents from Borough Surveyor, Municipal Offices, Blackpool (P.O. Box 17). Deposit £1. Tenders by April 22.

Cornwall. — Demolition of the property known as "Exchange Buildings," at the junction of South Street and Church Street, St. Austell, for C.C. Written applications to the County Surveyor, County Hall, Truro. Tenders by April 29.

Horbury, Yorks.—Demolition of 29 and 31 Northgate, for U.D.C. Documents from the Public Health Inspector, Town Hall, Horbury. Tenders by April 25.

Luton, Beds.—Demolition of cottage and clearance of site at Watling Street, Hockliffe, for R.D.C. Documents from the Engineer and Surveyor to the Luton Rural District Council, 48 Bute Street, Luton. Tenders by April 23.

Macclesfield, Ches.—Demolition of houses and ancillary buildings, for B.C., at Knight's Brow. Documents from the Borough Architect, 3 Jordangate, Macclesfield. Tenders by April 29.

Maidenhead, Berks.—Demolition of 5-14 Waldeck Road and miscellaneous buildings, for B.C. Documents from the office of the Borough Enginer and Surveyor, 14 Craufurd Rise, Maidenhead. Deposit £2. Tenders by April 22.

Manchester. — Demolition of properties in Boundary Street West, etc., Chorlton-on-Medlock, for City Council. Documents from City Architect, P.O. Box 488, Town Hall, Manchester. Tenders by April 20.

Sunderland, Dur.—Demolition of 11 properties, for B.C. Documents from the Borough Engineer, 27 Fawcett Street, Sunderland. Deposit £1 1s. Tenders by April 23.

ELECTRICAL

Dagenham, Essex.—Wiring of electric lighting and power points in 102 dwellings at Limbourne Avenue, Chadwell Heath, for B.C. Documents from the Borough Engineer, Civic Centre, Dagenham. Tenders by May 6.

Littlehampton, Sussex.—Electrical installations in shop, flat and garage, Clun Road, Wickbourne estate, contract 23, for U.D.C. Documents from the Engineer and Surveyor, Council Offices, Littlehampton. Deposit £1 1s. Tenders by April 20.

Luton, Beds.—Electrical installation, new kitchen and dining hall, Stopsley C.P. School, for B.C. Documents from the Borough Architect, Town Hall, Luton. Tenders by April 19.

Manchester.—Supply and installation of electric passenger lift at Newall View Aged Persons' Home, Wythenshawe, for City Council. Documents from City Architect, P.O. Box 488, Town Hall, Manchester. Tenders by April 25.

Stoke-on-Trent, Staffs. — Following works, for City Council: Electrical installations: (a) Blurton Secondary School — installation to annexe e; (b) Lindsay Secondary School—improvements to existing installation. Heating installations: (c) Holyrood Camp School, Llandudno—installations to extension; (d) Lindsay Secondary School—new installations; (e) Meir Nursery School—new installation. Contractors should make written application to the City Architect, Kingsway, Stoke-on-Trent, by April 21. Deposit £2 in notes for each of the contracts for which they wish to tender. Tenders by May 13.

FENCING

Manchester.—Supply and erection of approx. 10,250 lin. ft. of prestressed concrete fencing at Davyhulme Sewage Works extensions, for City Council. Manufacturers will be allowed to submit their proposals within a wide specification. Documents from the City Surveyor, Town Hall, Manchester, 2. Tenders by May 23.

Salford, Lancs. — Supply and delivery of wrought-iron fencing for the following, for City Council: (a) Buile Hill Park, and (b) David Lewis Recreation Ground. Documents from the Director of Parks, Buile Hill Park, Salford, 6. Tenders by April 30.

GAS AND WATER SUPPLY

Ampthill, Beds.—Laying of water mains at follows, for R.D.C.: Tyburn Lane, Westoning—approximately 185 lin. yd. 3in. a.c.; Sundon Road, Harlington—approximately 207 lin. yd. 3in. a.c.; Toddington Road, Harlington—approximately 505 lin. yd. 3in. a.c.; Denel End Close, Flitwick—approximately 80 lin. yd. 3in. a.c. Documents from the Engineer and Surveyor, The Limes, 12 Dunstable Street, Ampthill. Deposit £1 1s. each. Tenders by April 19.

***Angus.**—Carmyllie/Monikie water supply, contract 6, for C.C. Tenders by May 2.

Argyllshire.—Laying approximately 500yd. of 3in. a.c. water main at Machrihanish, for C.C. Applications to the County Engineer, Lochgilphead, by April 23.

Argyllshire.—Construction of sand filters at Tayinloan, for C.C. Applications to the County Engineer, Lochgilphead, by April 23.

Ashbourne, Derbys.—Providing, laying and jointing of approximately 1,400yd. of 2in. asbestos water mains, together with other works, at Ible, for R.D.C. Documents from H. Litchfield, surveyor, Compton Offices, Ashbourne. Deposit £1 1s. Tenders by April 22.

Cheadle, Staffs.—Construction of a water main extension at Rownall Road, Werrington, contract 311, for R.D.C., comprising the laying of approximately 1,170yd. of 3in. diameter cast-iron pipes, together with ancillary works. Documents from the Engineer and Surveyor, Council Offices, Leek Road, Cheadle. Deposit £2. Tenders by April 20.

Chelmsford, Essex.—Provision, laying and jointing of approx. 380yd. of 4in. and 43yd. of 3in. asbestos-cement pressure pipes, together with all incidental works, estate development off Swan Lane, Runwell, for R.D.C. Documents from the Engineer and Surveyor, Rural District Council Offices, New London Road, Chelmsford. Deposit £1 1s. Tenders by April 14.

Chelmsford, Essex.—Provision, laying and jointing of approx. 58yd. of 3in. asbesos-cement pressure pipes, together with all incidental works off Goulton Road, Broomfield, for R.D.C. Documents from the Engineer and Surveyor, Council Offices, New London Road, Chelmsford. Deposit £1 1s. Tenders by April 14.

Donegal, Eire.—Construction of a water supply extension to Urris, Clonmany, for C.C., comprising the laying of 4,687 lin. yd. 4in. (class B) a.c. or p.v.c. mains; 2,430 lin. yd. 4in. (class C) a.c. or p.v.c. mains; 2,872 lin. yd. 3in. (class B) a.c. or p.v.c mains, together with pipeline fittings, etc. Documents from the Secretary, Donegal County Council, County House, Lifford. Deposit £5 5s. Tenders by May 2.

East Dereham, Norfolk.—Yield test on the No. 2 borehole, at the waterworks, for U.D.C. Documents from the Waterworks Manager, Cemetery Road, Dereham. Tenders by April 23.

***Helmsley, Yorks.** — Scanton, Cold Kirby and Old Byland Water, two contracts, for R.D.C. Deposit £5 5s. each. Tenders by April 29.

Kincardineshire. — Augmentation of the water supply to Belti Cottages, Inchmarlo, for C.C. including laying approximately 200yd. of 1in. polythene piping and 400yd. of underground electric cable, the construction of a pumphouse, fitting electric pump, switches, etc. Documents from the County Sanitary Inspector, The Briars, Arduthie Road, Stonehaven. Tenders by May 4.

Londonderry. — Supply and laying of approx. 50 lin. yd. of 3in. dia. asbestos-cement water main and approx. 1,750 lin. yd. of 4in. dia. asbestos-cement water main, together with specials and fittings, to Glenabbey, Galliagh, for R.D.C. Documents from the offices of Londonderry Rural District Council, Glendermott Road, Londonderry. Deposit £2 2s. Tenders by May 4.

St. Neots, Hunts. — Construction of a reinforced concrete service reservoir of 200,000 gallons capacity, on a site adjacent to the existing reservoir at Potton Road, contract 13, for U.D.C. The contract also includes the provision and laying of certain short lengths of connecting mains up to 12in. dia. on the reservoir site, approx. 170yd. of 6in. stoneware washout pipe, and other ancillary works. Documents from John Taylor and Sons, engineers, Artillery House, Artillery Row, Victoria Street, Westminster, London, S.W.1. Deposit £5, cheque payable to U.D.C. Plans also seen at the Water Engineer's Office, Council Offices, Huntingdon Street, St. Neots. Tenders by May 3.

HARBOURS, PIERS AND SEA DEFENCE WORKS

Bournemouth.—Southbourne Cliffs protection works, scheme III, for B.C., including approximately 400 lin. yd. of stone faced reinforced concrete sea wall with steel sheet piling to toe, three concrete pile groynes, access road, cliff works and sloping cliff path. Documents from the Borough Engineer, Town Hall, Bournemouth, from April 19. Deposit £5. Tenders by May 16.

Dublin, Eire. — Trial borings and sampling at Kilybegs Harbour, Co. Donegal, for Office of Public Works. Documents from the Secretary, Office of Public Works, 51 St. Stephen's Green, Dublin. Tenders by April 22.

***Frinton and Walton, Essex.** — Reinforced concrete retaining walls, Southcliff and Cliff Parade, Walton-on-Naze, for U.D.C. Deposit £2 2s. Tenders by May 2.

Inverness-shire.—Construction of a mass concrete jetty, approx. 275ft. x 10ft., at Hushinish, Harris, and the extension of approx. 80ft. x 9ft. in mass concrete of the existing jetty on the Island of Scarp, also the construction on Scarp of a concrete beach slipway, approx. 232ft. x 16ft., for C.C. Documents from the County Surveyor, County Buildings, Ardross Street, Inverness. Tenders by April 22.

HEATING AND VENTILATING

Essex.—Following works, for C.C.: (1) Chafford School, Ramsey, near Harwich—conversion to oil firing, estimated cost £2,100; (2) Ogilvie School, Clacton-on-Sea—conversion to oil firing, estimated cost £3,000; (3) Essex Institute of Agriculture, Writtle—external and part internal decorations and repairs, the work to be carried out during the summer vacation, estimated cost £2,035; (4) Thundersley The King John County Secondary School—renewal of hot water service boiler plant, estimated cost £3,000. Separate applications for each contract to H. Conolly, county architect, County Hall, Chelmsford, by April 16.

Manchester.—Removal of existing plant and the supply and installation of new extract ventilation systems to public convenience, Piccadilly, for City Council. Documents from City Architect, P.O. Box 488, Town Hall, Manchester. Tenders by April 27.

***Wiltshire.**—Heating and electrical installations at new college, Salisbury, for C.C. Apply by April 26.

***Wiltshire.**—Heating and electrical installations at Lavington New Secondary School, for C.C. Apply by April 26.

HOUSING SCHEMES

Ashbourne, Derbys. — Following contracts, for U.D.C.: (a) Park Land housing, contract 11—the constructon of 12 two-bedroom flats at Brookside, Ashbourne; (b) Park Land roads and sewers contract, extension II, part five, Brookside—the construction of approx 550 sq. yd. of reinforced concrete carriageway, 169 lin. yd. of kerbing, 420 sq. yd. of paving, grass verges, 6in. soil and surface water drains, etc. Documents from P. W. Thornley, engineer and surveyor, Compton Offices, Ashbourne. Deposit £1 1s. each. Tenders by May 9.

Aycliffe, Dur.—Erection of 222 dwellings, 70 lock-up garages and four motor cycle lock-ups in Housing Precinct D.3 in the new town of Newton Aycliffe, contract 182, for Development Corporation. Documents from A. V. Williams, general manager, Newton Aycliffe, near Darlington, Co. Durham. Deposit £2 2s. Tenders by May 30.

Berkhamsted, Herts.—One hundred and four dwellings at Westfield housing estate, contract W.E.3, for U.D.C., comprising the following: Twenty three-bedroom houses; 38 two-bedroom houses; 12 one-bedroom bungalows; 32 one-bedroom flats; two shops with flats over, together with external and site works, and 64 garages and incidental works. Documents from Robert E. Hulse, engineer and surveyor, Civic Centre, Berkhamsted. Deposit £5 5s. Tenders by May 10.

Bradfield, Berks.—Following contracts, for R.D.C.: (1) Four old people's dwellings at Calcot; block of four flats at Calcot; four old people's dwellings at Theale; (2) three old people's dwellings at Ufton; four old people's dwellings at Beenham; (3) four houses at Ashampstead; three old people's at Frilstam. Documents from H. A. Champ, clerk of the Council, Council Offices, 26 Bath Road, Reading. Deposit £2 2s. Tenders by May 9.

Droitwich, Worcs.—Construction of a block of 16 old people's flatlets together with Warden's accommodation at the housing site at Ombersley, for R.D.C. Documents from

R. F. Fry, surveyor, Council Offices, 31 Ombersley Street, Droitwich. Deposit £2 2s. Tenders by May 5.

East Elloe, Lincs.—Eighteen a.p. bungalows, at Charles Road, Sutton Bridge, for R.D.C. Written applications to the Architect, Mattimore House, Holbeach, Spalding. Deposit £2 2s.

Gosport, Hants. — Twenty crosswall type bed-sittingroom bungalows, together with external works (14 in Walpole Park and six in Forton Road), for B.C. Applications to the Acting Borough Engineer and Surveyor, The Hall, Haslar Road, Gosport. Deposit £2 2s.

Invergowrie, Angus.—Thirty-four traditional houses at Kingoodie, Invergowrie, either all trades or separate trades, for Scottish Special Housing Association, Ltd. Documents from the Secretary, Scottish Special Housing Association, Ltd., 19 Palmerston Place, Edinburgh, 12.

Liverpool.—Construction of following, for City Council: (a) Fourteen flats, Utting Avenue East-Norris Green Crescent, 11; (b) 12 dwellings, Mill Street-Toxteth Street, 8; (c) three houses, Verona Street, 5; (d) eight flats, Menlove Avenue, Woolton; (e) four houses, Cathedral Road-Manningham Road, Anfield. Documents from City Architect and Director of Housing, Blackburn Chambers, Dale Street, Kingsway, Liverpool, 2. Deposit £2 2s., payable to City Treasurer. Tenders by April 21.

Lutterworth, Leics.—Site preparation works and erection of 24 houses on the site of existing temporary bungalows at the Married Quarters Estate, Leicester Road, for R.D.C. Documents from A. F. Ashton, clerk of the Council, Council Offices, Lutterworth, Rugby. Tenders by April 20.

Mansfield, Notts.—Five one-bedroom traditional bungalows at Racecourse housing estate, contract I/L, for B.C. Documents from E. T. Crowe, Carr Bank, Mansfield. Deposit £2 2s., payable to Town Clerk. Tenders by May 2.

Market Bosworth, Leics.—Eight bungalows at Stapleton, for R.D.C. Documents from the Surveyor, Council Offices, Market Bosworth, Nuneaton. Deposit £2 2s. Tenders by April 19.

Nottingham. — Construction of seven pairs of semi-detached and three detached staff houses at Stoke Bardolph, for City Council. Documents from R. M. Finch, city engineer and surveyor, The Guildhall, Nottingham. Deposit £2. Tenders by May 2.

Nuneaton, War.—One hundred and thirty-six flats in Abbey Street, for B.C. Documents from Frederick Gibberd, architect, 8 Percy Street, London, W.1, or the Borough Surveyor, Council House, Nuneaton. Deposit £2 2s. Tenders by May 9.

Oldbury, Worcs.—Stone Street and Lodge Street development, phase two, for B.C., including 78 four-storey dwellings and four garages, together with landscape wall and construction of drying areas. Documents from Wood & Kendrick and Williams, architects, of 57 Colmore Row, Birmingham. Deposit £2 2s. Tenders by May 7.

Plymouth.—Sixteen one-bedroom type E flats at Pembroke Street, Devonport, for City Council. Applications to the City Architect, Seymour Road, Plymouth, by April 18. Deposit £3 3s., payable to Corporation.

Portslade-by-Sea, Sussex. — A block of 12 single-bedroom flats at Vale Road, for U.D.C. Documents from the Surveyor, Town Hall, Victoria Road, Portslade-by-Sea. Deposit £3 3s., payable to U.D.C. Tenders by April 29.

Richmond, Yorks.—Six bungalows in Aldbrough St. John, and four bungalows in Catterick Village, for R.D.C. Tenders will be accepted for either or both sites. Documents from the Engineer and Surveyor, Swale House, Richmond. Deposit £2 2s. Tenders by April 20.

Saltburn and Marske-by-the-Sea, Yorks.—Erection of a two-storey block of 20 aged persons' flats at Marine Parade, for U.D.C. Documents from the Engineer and Surveyor, Council Offices, Saltburn-by-the-Sea. Deposit £3 3s. Tenders by May 2.

Stanley, Yorks.—Construction of 20 aged persons bungalows at Moorhouse estate and Bottomboat Road, for U.D.C. Documents from J. Hustwit, engineer and surveyor, Council Offices, Coach Road, Outwood, near Wakefield. Deposit £2 2s. Tenders by April 25.

Strood, Kent.—Erection of a block of five aged persons' flats, Hermitage Road, Higham, for R.D.C. Documents from the Engineer and Surveyor, Council Offices, Frindsbury Hill, Strood. Deposit £5 5s. Tenders by April 29.

Whaley Bridge, Derbys. — Fifteen aged persons' bungalows on the Park Road housing site, for U.D.C. Documents from the Surveyor, Council Office, Whaley Bridge. Deposit £2 2s. Tenders by May 9.

Wisbech, Isle of Ely.—Eight houses at Cockett's Drive, for B.C. Documents from the Borough Engineer, Church Terrace, Wisbech. Deposit £1. Tenders by April 30.

MATERIALS AND SUPPLIES

Aberdeenshire. — Supply of petrol, derv and fuel oil during the year 1960-61, for C.C. Documents from the County Surveyor, Council Offices, 4 Albyn Place, Aberdeen. Tenders by April 19.

Blackburn, Lancs.—Supply of steel racking and shelving in the Borough Treasurer's Printing and Stationery Department, for B.C. Documents from Borough Treasurer, Town Hall, Blackburn. Tenders by April 25.

Carlton, Notts. — Supply for the period ending March 31, 1961, for U.D.C., of 850 dustbins, complete with lids, and 150 dustbins without lids of the type indicated in the schedule below. The dustbins will be required to be delivered in minimum quantities of 72, payment being made as deliveries are received. Schedule: Size 18in. diameter by 24in. high, manufactured from 24 gauge mild sheet steel; lid and body galvanised and corrugated, embossed with letters C.U.D.C. on body Tenders , in plain sealed envelopes, clearly endorsed "Tender for Dustbins," to A. E. F. Walker, clerk of the Council, Council House, Burton Road, Carlton, Nottingham, by April 30.

Chadderton, Lancs.—Supply and delivery of 1,000 2½ cu. ft. capacity galvanised mild steel dustbins, for U.D.C., made to B.S.S.792; height 22in., diameter tapering from 17in. to 15in. The bin and lid to be stamped "C.U.D.C." in letters not less than 1½in. in size. Delivery to be made to the Council's Garage, Wellington Street, Chadderton, in lots as required, the delivery period to be stated in the tender. Tenders, in plain sealed envelopes endorsed "Tender for Dustbins," to L. Stott, clerk of the Council, Town Hall, Chadderton, by April 30.

***Durham.**—Supply of school equipment, for C.C. Tenders by May 6.

Gravesend, Kent.—Supply of approximately 200 gallons of Dulux paint for external painting, to be delivered in lots as required, for B.C. Applications to the Borough Engineer and Surveyor, 6 Woodville Terrace, Gravesend, enclosing a stamped addressed envelope. Tenders by April 20.

***Liverpool.**—Supply of crankcase oils, for City Council. Tenders by May 14.

Manchester.—Supply of the following, for City Council: Brushes and brush stales; chamois leathers; cleaning cloths (loan, washing, etc.); hacksaw blades; steel files; electric lamp bulbs for vehicles. Documents from the General Manager, Corporation Transport Department, 55 Piccadilly, Manchester, 1. Tenders by April 29.

Staffordshire.—Supply of fuel oil, for Co. E.C. Documents from the Director of Education (Supplies), County Education Offices, Earl Street, Stafford. Tenders by April 23.

Tyldesley, Lancs.—Supply and delivery of approx. 500 2½ cu. ft. galvanised iron dustbins and lids B.S.S. 792, for U.D.C. Sealed tenders endorsed "Dustbins" to Richard F. Wilson, clerk of the Council, Town Hall, Tyldesley, by April 23.

West Riding.—Supply of 1,600 tons of burnt colliery shale, to be delivered on the Sheffield-Grimsby trunk road 1½ miles east of the Black Bull Inn, Thorne High Levels, near Lindsey County Council boundary, for C.C. Documents from the County Engineer and Surveyor, County Hall. Wakefield. Tenders by April 25.

PLANT AND MECHANICAL TRANSPORT

Brigg, Lincs.—Supply of a 10 cu. yd. refuse collection motor vehicle, with hydraulic tipping gear, for U.D.C., the present vehicle to be taken in part exchange. Documents from the Surveyor, Town Hall, Brigg. Tenders by April 23.

***Bristol.**—Supply of plant, for City Council. Tenders by April 28.

Broadstairs and St. Peter's, Kent.—Supply and delivery of the following, for U.D.C.: (a) Fordson Major tractor, fitted with hydraulic loader and sundry accessories; (b) Holpack No. 13 compressor unit, complete; (c) Fordson Dexta tractor; (d) Hayter mower, and also the purchase from the Council of a Scammell mechanical horse. Documents from the Engineer and Surveyor, Pierremont Hall, Broadstairs. Tenders by April 22.

Bury St. Edmunds, Suffolk.—Supply of the following, for B.C.: (a) 4-ton lorry; (b) 10cwt. van; and (c) two Allen rotary sickles. Documents from the Borough Engineer and Surveyor, Council Offices, Bury St. Edmunds. Tenders by April 22.

Deben, Suffolk. — Supply of one new Karrier Gamecock dual tip 18 cu. yd. refuse collector with petrol engine, and alternative price for diesel engine, with loading board extension spare wheel and carrier, cab roof salvage rack with access ladder, and rear riding step, the complete vehicle to be painted and delivered to the Council's instructions, for R.D.C. Tenders, in a plain envelope endorsed "Refuse Collector" and stating delivery date, to T. D. Hockings, clerk, Council Offices, Melton Hill, Woodbridge, by April 25.

Durham.—Supply of one diesel-engined dual tip refuse collector on a Karrier Bantam chassis, for City Council. Documents from the City Engineer, Town Hall, Durham. Tenders by April 20.

Easington, Dur.—Either of the following, for R.D.C.: (a) Sherman Panther power digger (four wheel drive); (b) Whitlock Dinkum power shovel and excavator, or (c) J.C.B. Hydra-Digga/Loadall. The equipment is to include a ¾ cu. yd. forward loading shovel and a 30in. wide rear excavator bucket and to have all weather cab protection. The Council offer in part exchange a Ferguson diesel tractor with fitted Shawnee Scout excavator of 1956 manufacture, which may be inspected by arrangement with the Council's Engineer and Surveyor. Tenders for the supply of any of these machines delivered to Easington, quoting the allowance made for the part exchange offer, in sealed envelope endorsed "Plant" to T. Agar, clerk of the Council, Council Offices, Easington, by 10 a.m. May 16.

Egham, Surrey.—Supply and delivery of two 16-20 cu. yd. (compressed) capacity refuse collection vehicles, for U.D.C. Each vehicle to have diesel engine, double crew cab and to be of the rear loading type, and painted and lettered to the requirements of the Council. Detailed specification and description of the vehicle must accompany the tender which is to be delivered in a plain, sealed envelope, endorsed "Refuse Collection Vehicles," and addressed to H. R. H. Smith clerk, Council Offices, High Street, Egham, Surrey, by April 25.

Helmsley, Yorks. — Supply of one Karrier 10 cu. yd. Gamecock Rootes diesel-engined refuse collection vehicle to be painted and lettered to requirements, for R.D.C. The supplier will be required to take in part exchange one Karrier C.K.3 1949 refuse collector. Tenders, in sealed envelopes endorsed "Refuse collection vehicle," to R. A. Lowery, clerk of the Council, Council Offices, Helmsley, York, by April 19.

Hornchurch, Essex.—Supply and delivery of the following, for U.D.C.: Two 3-ton short wheelbase Bedford low-loading tipping lorries; one Ford van, 10/12cwt. open type, with steel body. Documents from the Engineer and Surveyor, Council Offices, Billet Lane, Hornchurch. Tenders by April 25.

***Liverpool.**—Supply and erect gantry crane, for City Council. Tenders by May 14.

Llwchwr, Glam.—Following items of plant and equipment, for U.D.C.: (1) Auto-Culto 600 complete with attachment for plough and rotary cultivator; (2) Ransomes Marquis motor mower, complete with concave and grass box, and transport carrier; (3) Ransomes triple gang mower—Magna Mark 12 with universal framework; (4) Tarpen 20S chain saw (to be used with a Tarpen portable petrol electric generating set, 110 volts); (5) two Tarpen hedgecutters (type 45P) (to be used with a Tarpen portable petrol electric generating set, 110 volts); (6) Tarpen 20T Hoc tiller (to be used with a Tarpen portable petrol electric generating set, 110 volts); (7) Tarpen 20 motor unit (to be use with chain saw and Hoc tiller); (8) reconditioned Ferguson diesel tractor to be used with triple gang mowers, and to carry out chain harrowing, etc., and light haulage work (state period of guarantee); (9) one 26in. self-propelled Hayter scythe. Documents from the Engineer and Surveyor, Council Offices, Gorseinon. Tenders by April 20.

***Merionethshire.**—Supply of plant, for C.C. Tenders by April 25.

***Nottinghamshire.**—Supply of hydraulic loading shovel, for C.C. Tenders by April 23.

***Ramsbottom, Lancs.**—Supply of a tractor, for U.D.C. Tenders by April 30.

***Rayleigh, Essex.**—Supply of a tractor, for U.D.C. Tenders by April 29.

Skipton, Yorks.—Following, for U.D.C.: Supply and delivery of one David Brown 950 semi-industrial tractor, including accessories and offers for tractor now in use. Documents from Engineer and Surveyor, Town Hall, Skipton. Tenders by April 25.

Tyldesley, Lancs.—Supply and delivery of one 10 cu. yd. side loading vehicle with curved sliding shutters, double cab, power operated end tipping gear, six-cylinder diesel engine, 27 x 6 tyres, painted and lettered to the Council's requirements, for U.D.C. Sealed tenders endorsed "Refuse Collection Vehicle" to Richard F. Wilson, Clerk of the Council, Town Hall, Tyldesley, by April 23.

PLAYING FIELDS, PARKS, ETC.

Harlow, Essex.—Construction of a six-rink bowling green, two tennis courts, 3,200 sq. yd. of tarmac footpath and 760 lin. yd. fencing, together with ancillary works, at Bush Fair, stage V, for U.D.C. Documents from A. W. R. Webb, engineer and surveyor, Netteswell Hall, Harlow. Deposit £2 2s. Tenders by April 23.

ROADS, BRIDGES AND SITE WORKS

Aberdeen.—Supply of plant, labour and materials required, and for the application of thermoplastic white lines on selected sections of highways during the summer period of 1960, for C.C. Documents from the County Surveyor, Council Offices, 4 Albyn Place, Aberdeen. Tenders by April 21.

Bedwellty, Mon.—Bituminous macadam carpet coats to carriageways of classified and unclassified roads, for U.D.C. The works include the provision of material and labour, and the laying by means of a Barber-Greene or other approved spreading and finishing machine. Documents from T. I. Thomas, engineer and surveyor, Municipal Offices, Aberbargoed, Bargoed, Glam. Deposit £2 2s. Tenders by April 29.

***Beeston and Stapleford, Notts.**—Widening of Derby Road (A.52), for U.D.C. Deposit £5. Tenders by May 23.

***Biddulph, Staffs.**—Surface dressing of roads, for U.D.C. Deposit £1 1s. Tenders by May 9.

Birmingham.—Construction of roads and sewers, together with incidental works, on Hagley Road housing site, Edgbaston, for City Council. Documents from the office of Sir Herbert J. Manzoni, city engineer and surveyor, Civic Centre, Birmingham, 1. Deposit £2 2s. cheque. Plans for the road and sewerage works can be seen at Rooms 339 and M.39, respectively, Civic Centre. Tenders by April 20.

***Blackpool, Lancs.**—Making-up five private streets, for B.C. Deposit £2. Tenders by April 28.

***Bridgwater, Som.**—Surface dressing of roads, 1960-61, for B.C. Deposit £2 2s. Tenders by April 23.

***Bromsgrove, Worcs.**—Resurfacing works, for U.D.C. Deposit £2 2s. Tenders by April 27.

***Canvey Island, Essex.**—Reinforced concrete carriageways, contracts 7 and 8, for U.D.C. Deposit £3 3s. Tenders by May 19.

Carlton, Notts.—Laying only and/or provide and lay of tarred and bituminous macadam and cold asphalt by Barber-Greene machine, for U.D.C. Documents from the Engineer and Surveyor, Council House, Burton Road, Carlton.

Carmarthenshire.—Excavation by mechanical plant of approximately 3,000 cu. yd. of material at Bryniwan, Cynwyg Elfed, for C.C., the material excavated to be hauled and deposited on a site to be found by the contractor. Documents from J. L. Richards, county engineer and surveyor, Roads and Bridges Department, County Hall, Carmarthen. Deposit £2. Tenders by April 20.

***Chadderton, Lancs.**—Footway reconstruction, for U.D.C. Deposit £2 2s. Tenders by April 27.

***Chadderton, Lancs.**—Asphalt surfacing, for U.D.C. Deposit £2 2s. Tenders by April 27.

***Chadderton, Lancs.**—Heating and planing carriageways, for U.D.C. Deposit £1 1s. Tenders by April 27.

Chichester, Sussex.—Construction of a car park on the site of Sloe Fair Field, for City Council, comprising excavation—approx. 9,300 cu. yd.; wall ballast foundation and tarmacadam surfacing—approx. 23,500 super. yd.; concrete kerbing and channelling—approx. 520 lin. yd. of each; eight surface water soakaways. Documents from the office of the City Engineer and Surveyor, Greyfriars, North Street, Chichester. Deposit £2 2s., cheques payable to Corporation. Tenders by April 22.

***Colne, Lancs.**—Surface dressing, for B.C. Tenders by April 26.

***Colne, Lancs.**—Hot rolled asphalt surfacing, for B.C. Tenders by April 26.

Cork, Eire.—Sinking of approx. three bore holes in alluvial slit, sand and gravel at Marina Steam Station, Cork, for Electricity Supply Board. Standard disturbed and undisturbed samples of the material bored through are to be taken, and permeability tests carried out in the bore holes. Quotations enclosed in sealed envelopes, endorsed "Tender for Borings, Marina Station," to J. G. Gargan, secretary, Electricity Supply Board, 27 Lower Fitzwilliam Street, Dublin, by noon, April 20.

Cumberland.—Supplying and laying a total of approximately 1,100 sq. yd. of precast concrete paving slabs and ancillary works, and providing and laying a total of approximately 1,700 lin. yd. of kerbing and re-laying approximately 1,800 lin. yd. kerbing at Cleator Moor, Frizington, Moor Row, Arlecdon, Pica, St. Bees, Bigrigg and Egremont, for C.C. Documents from F. L. Broughton, county surveyor, Citadel Chambers, Carlisle. Deposit £2 2s. Tenders by April 23.

Cumberland. — Supply and application of plastic white lines on approx. 160 miles of trunk and classified county roads, for C.C. Documents from F. L. Broughton, county surveyor and bridgemaster, Citadel Chambers, Carlisle. Tenders by April 26.

Cumberland. — Laying of 10,000 reflecting road studs on trunk and classified roads, for C.C. Documents from F. L. Broughton, county surveyor and bridgemaster, Citadel Chambers, Carlisle. Tenders by April 26.

Denton, Lancs.—Windsor Road reconstruction, for U.D.C., consisting of complete reconstruction of the carriageway and includes excavation of the existing road construction. Provision of 3,000 lin. yd. subsoil drainage and 7,900 sq. yd. of new carriageway construction in wet mix bituminous macadam and asphalt surfacing, together with kerbing, flagging, surfacing of verges and other ancillary works. Documents from the Engineer and Surveyor, Town Hall, Denton. Deposit £2 2s .Tenders by May 2.

***Devonshire.**—Pile foundations to Clyst St. Mary Bridges, for C.C. Tenders by May 16.

***Dover, Kent.**—Surface dressing of highways, 1960/61, for B.C. Deposit £2 2s. Tenders by April 21.

***Fareham, Hants.**—Surface dressing, for U.D.C. Tenders by April 22.

Farnworth, Lancs.—Lavender Road widening, for B.C., comprising kerbing and the laying of approximately 3,000 super. yd. hot rolled asphalt to carriageway surface and approximately 2,000 super. yd. bituminous macadam to footways. Documents from the Borough Engineer, Town Hall, Farnworth. Tenders by April 30.

***Flintshire.**—Construction of dual carriageway and bridge over river Dee at Queensferry, for C.C. Deposit £25. Tenders by June 15.

Fulwood, Lancs.—Making-up the following streets: Allenby Avenue, Devonshire Road, Westway, Beacon Grove, Beacon Avenue, for U.D.C. Documents from the Engineer and Surveyor, Council Offices, Garstang Road, Fulwood. Deposit £2 2s. Tenders by May 2.

Gelligaer, Glam.—Surface dressing various roads in combinations of tar, bitumen, limestone and granite, for U.D.C. Documents from the Engineer and Surveyor, Council Offices, Hengoed, Glam. Tenders by April 29.

Herne Bay, Kent.—Surface dressing of approx. 36,000 sq. yd. of road, for U.D.C. Documents from the Surveyor, Council Offices, Herne Bay. Tenders by April 30.

Ilford, Essex.—Construction of a car park in Balfour Road, area 5,100 sq. yd., involving site clearance, drainage works, excavation for and laying of hardcore foundation, with surfacing work under sub-contract, for B.C. Documents from the Borough Engineer, Town Hall, Ilford. Deposit £2 2s. Tenders by April 26.

Ilford, Essex.—Site development works at Carlton Drive, for B.C., involving 625 sq. yd. of concrete carriageway construction, drainage, kerbing and ancillary works, together with the laying of 70 lin. yd. of 45 in. dia. concrete pipes. Documents from the Borough Engineer, Town Hall, Ilford. Deposit £2 2s. Tenders by April 26.

***Kidderminster, Worcs.**—Making-up of Oakfield Road and Birchfield Road, for B.C. Deposit £2 2s. Tenders by May 6.

***Lancashire.**—Reconstruction and widening of bulk canal bridge, for C.C. Deposit £10. Tenders by May 23.

***Leeds.**—Road works A and B, for City Council. Deposit £1 1s. Tenders by April 28.

Leek, Staffs.—Construction, including levelling, draining, kerbing, channelling, paving and appurtenant works required for the making up of proposed new avenue, for U.D.C. Documents from John A. Gilchrist, engineer and surveyor, Town Hall, Leek. Deposit £2 2s. Tenders by April 23.

Leicester.—Construction of 620 sq. yd. of reinforced concrete carriageway, 700 sq. yd. of slab footway, together with other incidental works at Wharf Street, for City Council. Documents from John L. Beckett, city surveyor, Town Hall, Leicester. Deposit £1 1s. Tenders by April 25.

Luton, Beds.—Following, for B.C.: Resurfacing of 10,000 sq. yd. approximately of major roads with 1½in. of hot rolled asphalt, together with preparation of surface and regrading; also the resurfacing of 8,000 sq. yd. approximately of school playgrounds with ¾in. hot sand carpet, including regrading of the surface with gravel asphalt. Documents from the Borough Engineer, Town Hall, Luton. Deposit £2 2s. cheques payable to Luton Corporation. Tenders by April 25.

Luton, Beds. — Construction of approx. 45 lin. yd. of carriageway in Broxley Mead extension, complete with paved footways, etc., for B.C. Documents from Borough Engineer, Town Hall, Luton. Deposit £2 2s., cheques payable to Corporation. Tenders by April 25.

Manchester.—Soil inveestigation at Didsbury Training College, for City Council. Documents from City Architect, P.O. Box 488, Town Hall, Manchester. Tenders by April 22.

Manchester.—Construction of roads and car parks at Manchester Airport new terminal area, for City Council, involving site clearance, approx. 30,000 cu. yd. excavation, approx. 2,750 lin. yd. drains from 6in. to 24in. dia., 50,000 sq. yd. of pavements of various types (mainly flexible), and various ancillary works. Documents from the City Surveyor, Town Hall, Manchester, 2. Tenders by April 28.

Marple, Ches.—Footpath and carriageway improvement works at Bowden Lane, part one, for U.D.C., consisting of kerbing, flagging, bituminous macadam and ancillary works. Documents from the Surveyor's Office, Council Offices, Marple. Deposit £2. Tenders by April 22.

Newcastle upon Tyne.—Following work required for six 15-storey blocks of flats at Scotswood Road (Hawes Street) redevelopment area, for City Council: Supply and placing of approx. 560 precast reinforced concrete piles to the specified design of the appointed consulting engineers. A proportion of the piles will be set raking. Applications, in writing, to the City Architect, 18 Cloth Market, Newcastle upon Tyne, 1. Tenders by April 26.

Newcastle-under-Lyme, Staffs. — Surface dressing of approx. 100,000 sq. yd. of classified and unclassified roads, for B.C. Documents from the office of the Borough Engineer and Surveyor, Lancaster Building, High Street, Newcastle, Staffs. Tenders by April 27.

Newton-le-Willows, Lancs.—Approx. 4,500 sq. yd. of two-coat asphalt surfacing on trunk road, A.49, for U.D.C. Documents from Engineer and Surveyor, Market Chambers, Market Street, Newton-le-Willows. Tenders by April 30.

Omagh, Tyrone.—Surface dressing of approx. 66,000 sq. yd. of roads and streets, for U.D.C. The contract requires the use of Whinstone aggregate and either tar or cutback bitumen as a binder. Documents from the Town Surveyor, Town Hall, Omagh. Tenders by April 21.

Oxford.—Construction of roads, sewers, footpaths and verges on part IV of the Blackbird Leys estate, for City Council. The work involves approximately 5,100 lin. yd. of new roads, with lean mix concrete base and asphalt wearing course to carriageways; 5,700 lin. yd. of foul and surface water sewers, varying from 4in. to 18in. diameter with necessary manholes; and 270 lin. yd. of 36in. diameter surface water culvert, site clearance and ancillary works. Applications to the City Engineer, Town Hall, Oxford, by April 20.

Oxfordshire.—Road construction for the widening of approximately ¾-mile of carriageway and the construction of concrete foundations on the Oxford-Northampton trunk road near Weston-on-the-Green, for C.C. Documents from the County Surveyor, 8 New Road, Oxford. Tenders by April 22.

***Peterborough.**—Fulbridge Road major improvement, for City Council. Deposit £2. Tenders by May 3.

***Reading, Berks.**—Extension of Coley Avenue, for B.C. Deposit £2 2s. Tenders by May 2.

Reading, Berks. — Resurfacing five existing school playgrounds with hot asphalt (approx. 9,700 sq. yd.), for B.C. Documents from Borough Surveyor's Office (P.O. Box 17), Town Hall, Reading. Deposit £2 2s., cheques payable to Corporation. Tenders by May 3.

Reigate, Surrey. — Burning and planing of the existing surface, and resurfacing approx. 8,100 sq. yd. with 2in. rolled asphalt (hot process) to London-Brighton trunk road, A.23, together with the reconstruction of the foundation with lean mix concrete, for B.C. Documents from Borough Surveyor, Town Hall, Reigate. Tenders by April 23.

***Shoreham - by - Sea, Sussex.** — Making - up Franklin Road, for U.D.C. Tenders by April 28.

Southampton. — Construction of roads, sewers and appurtenant works, on the Redbridge Roundabout housing site A.P.H.S. (approx. 3,200 sq. yd. roadworks, 600 lin. yd. sewers), contract S.216, for B.C. Applications to the Borough Engineer and Surveyor, Civic Centre, Southampton, by April 19.

Stockport, Ches.—Part realignment and part reconstruction of Edward Street, for B.C., involving excavation, selected fill to cellars, provision and laying of 500 lin. yd. concrete kerb, re-laying existing kerbs, 1,500 sq. yd. flagging construction of retaining wall in natural stone and concrete, sewer works and surfacing with 700 tons of premixed water-bound macadam and 120 tons bitumen macadam. Documents from the Borough Surveyor, Room 76, Town Hall, Stockport. Tenders by April 19.

Stockport, Ches.—Improvement works on Heaton Lane, for B.C., comprising 300 sq. yd. of carriageway extension, 900 sq. yd. of bituminous surfacing, kerbing, flagging, and drainage. Work also includes the removal of 60 lin. yd. of front boundary walls, railings, and gates, and the replacement of approx. 35 lin. yd. to a new line, together with incidental works. Docu-

ments from the Borough Surveyor, Town Hall, Stockport. Tenders by April 19.

Stockport, Ches.—Street and sewer works in Brownsville Road, Buckingham Road, York Road, Clarence Road, Tatton Road North, for B.C. Documents from Borough Surveyor Town Hall, Stockport. Tenders by April 19.

***Stourbridge, Worcs.**—Various works, for B.C. Deposit £2 2s. each. Tenders by April 29.

Stretford, Lancs.—Reconstruction works in various roads, for B.C., including kerbing, flagging, concrete, wet-mix, hot rolled asphalt, etc. Documents form A. H. Perry, borough engineer and surveyor, Town Hall, Stretford. Deposit £2. Tenders by April 23.

Sunbury-on-Thames, Middx.—Following, for U.D.C.: (1) Surface dressing of roads, 1960-61 (approx. 12,360 sq. yd.); (2) gravel asphalt surfacing of roads, 1960-61 (approx. 8,500 sq. yd. of single-course gravel asphalt, 1½in. thick). Documents from the Engineer and Surveyor, Council Offices, Sunbury-on-Thames. Tenders by May 4.

Sunderland, Dur.—Woodbine Terrace reconstruction, for B.C., comprising approx. 950 sq. yd. 10in. concrete foundation and bituminous macadam surfacing. Documents from the Borough Engineer, 27 Fawcett Street, Sunderland. Deposit £2 2s. Tenders by April 21.

Sunderland, Dur.—Road and sewer works at Percy Terrace, for B.C., comprising the laying of 1,020 sq. yd. of concrete carriageway and the construction of 120 lin. yd. of 9in. dia. sewers, together with ancillary works. Documents from the office of the Borough Engineer at 27 Fawcett Street, Sunderland. Deposit £2 2s. Tenders by April 25.

Thornaby-on-Tees, Yorks.—Reconstruction of 430 lin. yd. of Gilmour Street, for B.C., including reconstruction of the carriageway and footpaths, adjustments to surface water drainage, and all appurtenant works, and provide for the laying of lean-mix concrete foundation, bituminous macadam base course and cold asphalt surfacing over an area of approximately 3,900 sq. yd., and also 1,700 sq. yd. concrete paving flags. Documents from the Borough Engineer's Office, Town Hall, Thornaby-on-Tees. Deposit £3 3s. Tenders by April 26.

Thornton Cleveleys, Lancs.—Surface dressing of approx. 30,000 sq. yd. of roads, for U.D.C. Documents from the Engineer and Surveyor, Council Offices, Thornton Cleveleys, Blackpool. Tenders by May 5.

Tipton, Staffs.—Construction of 1,800 s. yd. of carriageway, with kerbs and other ancillary works, and 230 lin. yd of 6in. and 9in. diameter sewers at St. John's Road housing site, contract 1, for B.C., including the demolition of factory buildings consisting of steel-framed buildings with concrete floors and adjoining brick buildings, the floor area being approximately 2,000 sq. yd. Documents from Horace N. Woodard, borough engineer and surveyor, Municipal Buildings, Sedgley Road West, Tipton. Deposit £2 2s. (cheques payable to Corporation). Tenders by April 25.

Tipton, Staffs.—Reconstruction of 3,000 sq. yd. of footways and 900 lin. yd. of kerbing, together with burning and planing and resurfacing 4,600 sq. yd. of carriageway with hot rolled asphalt, and ancillary works, in Gospel Oak Road, for B.C. Documents from Horace N. Woodard, borough engineer and surveyor, Municipal Buildings, Sedgley Road West, Tipton. Deposit £2 2s. (cheques payable to Corporation). Tenders by May 5.

***Twickenham, Middx.**—Supply and laying carriageway carpeting, for B.C. Deposit £2 2s. Tenders by May 2.

Wandsworth.—Partial reconstruction of nine roads, including concrete foundations, haunch work in bitumen macadam, precast concrete flag paving, granite kerbing, etc., for B.C. Documents from the Borough Engineer, Municipal Buildings, Wandsworth, S.W.18. Deposit £2 2s. Tenders by April 27.

Wath-upon-Dearne, Yorks.—Construction of road and sewerage works, including carriageways in granular base material, dense tar surfacing, tarmacadam footways, storm water drainage, sewerage and ancillary works of seeding features, tree planting and fencing at the following sites, for U.D.C.: (1) Aged persons' community site; (2) West Malton housing site 5. Documents from the Engineer and Surveyor, Town Hall, Wath-upon-Dearne. Deposit £3 3s. Tenders by April 25.

Wednesbury, Staffs.—Site levelling, preliminary roadworks, construction of sewers and incidental works on the Balls Hill housing site, for B.C., comprising approx. 100,000 cu. yd. of bulk excavation and filling for site levelling, the construction of 6,500 sq. yd. of pitched roads, 850 lin. yd. of foul sewers and 960 lin. yd. of surface water sewers. Documents from the office of the Borough Engineer and Surveyor, Town Hall, Wednesbury. Deposit £3 3s., cheque payable to Corporation. Tenders by April 28.

***Worcester.**—Annual road surface dressing contract (1960), for City Council. Deposit £2 2s. Tenders by May 5.

SEWERAGE, SEWAGE AND REFUSE DISPOSAL

***Alnwick, Northumb.**—Togston sewerage and sewage disposal, for R.D.C. Apply by April 27. Deposit £5.

Ampthill, Beds.—Laying of some 156yd. of 6in. glazed stoneware pipes and ancillary works at Tyburn Lane, Westoning, for R.D.C. Documents from the Engineer and Surveyor, The Limes, 12 Dunstable Street, Ampthill, Bedford. Deposit £2 2s. Tenders by April 16.

***Blackpool, Lancs.**—Construction of sewer, etc., in the Mossom Lane area, for B.C. Deposit £2. Tenders by April 28.

***Bromsgrove, Worcs.**—Bournheath sewerage scheme, for U.D.C. Deposit £2 2s. Tenders by April 27.

Cardiff.—Sewer extension, St. Fagans, for R.D.C., consisting of approximately 150 lin. yd. of 6in. diameter salt glazed ware and cast-iron pipe sewers and two manholes south of St. Fagans Railway Station. Documents from the office of the engineer and surveyor, S. P. Youldon, 20 Park Place, Cardiff. Deposit £3 3s. Tenders by April 21.

Coleraine, Londonderry.—Erection of a sewage pumping station, the supplying and laying of about 400yd. of 4in. diameter spun-iron pumping main, and the supplying and laying of about 600yd. of 9in. diameter earthenware sewers, including the construction of manholes at East Ballygelagh, for R.D.C. The work to be completed before the end of June, 1960. Documents from quantity surveyor, Crofton Dalzell, Northern Bank Buildings, Coleraine. Deposit £5 5s. Tenders by April 22.

Galloway, Kirkcudbright.—Construction of twin septic tanks each of capacity 11,250 gallons, together with 6in. diameter effluent pipe and ancillary works, for B.C. Applications to D. A. Donald and Wishart, consulting engineers, 233 West Regent Street, Glasgow, C.2, by April 16. Plans also seen at 63 King Street, Castle-Douglas.

Horsham, Sussex.—Main drainage of Partridge Green, H19/5, contract 1, for R.D.C., including the construction of approximately 2,656 lin. yd. of small diameter sewers and rising main, a sewage pumping station, the reconstruction of a sewage disposal works, and other ancillary works. Documents from the offices of Howard Humphreys and Sons, consulting engineers, Victoria Station House, Victoria Street, London, S.W.1, by April 29. Deposit £5 5s. (cheques payable to R.D.C.). Tenders by May 10.

Hull.—Extension of drainage works on an area of 1,400 sq. yd. (approximately) at the Northern Cemetery, Chanterlands Avenue North, for City Council. Documents from the General Superintendent, Parks, etc., Department, 79 Ferensway, Hull. Tenders by May 2.

***Kenilworth, War.**—Soil and surface water sewers and kerbing, for U.D.C. Tenders by April 23.

Kidderminster, Worcs.—Construction of sludge drying beds, together with pipework and roadwork, on the existing sewage disposal works at Drakelow, near Wolverley, for R.D.C. Documents from A. S. Northover, engineer and surveyor, Council Offices, Land Oak House, Kidderminster. Deposit £3 3s. (cheques payable to R.D.C.). Tenders by May 16.

Kincadineshire.—Extension of Newtonhill sewerage system, for C.C., including laying approximately 415yd. of 9in. and 10in. diameter fireclay sewers and the extension of the outfall sewer at the cliff face in 10in. diameter spun-iron piping and relative works. Documents from the County Sanitary Inspector, The Briars, Arduthie Road, Stonehaven. Tenders by May 4.

Leyland, Lancs.—Construction of approximately 1,200 yd. of 12in. and 15in. diameter concrete pipe sewers, together with manholes and other appurtenant works at Golden Hill Lane, for U.D.C. Documents from the offices of Charles J. Lomax and Son, chartered civil engineers, 68 Barton Arcade, Manchester 3. Deposit £3 3s. (cheques payable to U.D.C.). Tenders by April 21.

Littleborough, Lancs.—Construction of approximately 1,500 lin. yd. of 6in. diameter earthenware sewer and ancillary works, for U.D.C. Documents from D. W. Allison engineer and surveyor, Council Offices, Littleborough. Tenders by April 25.

***Liverpool.**—Construction of reciprocating pump, for City Council. Tenders by May 14.

Market Harborough, Leics.—Construction of 1,100yd. of 15in./18in. diameter sewers with ancillary works, for U.D.C. Applications to Harold V. Hudson, clerk of the Council, Council Offices, Northampton Road, Market Harborough, by April 23. Deposit £2 2s.

Midlothian.—Alteration to existing sewage works and the construction of a pumping station, rising main, etc., at Rosewell, for C.C., comprising reinforced concrete or brick tanks, chambers, etc., and reconstruction of filter beds. Documents from the County Engineer, 32 Palmerston Place, Edinburgh, 12.

Neath, Glam.—Proposed enlargement of Crynant sewage disposal works, for R.D.C., including the construction of sludge drying beds and pumping station, together with the laying of sewers, rising mains, the construction of brick manholes and other incidental work. Documents from the office of the Engineer and Surveyor, 18 Orchard Street, Neath. Deposit £3 3s. Tenders by April 26.

Okehampton, Devon.—Construction of about 860yd. of 6in. diameter sewers complete with manholes and a sewage purification works in the parish of Sampford Courtenay, for R.D.C., comprising detritus and screening chambers, sedimentation tanks, percolating filter, humus tank, sludge drying beds, together with ancillary site buildings, pumphouse, pumping well, drains, etc., and adaptation of existing disposal works to treat storm water. Documents from the Chief Public Health Inspector, R.D.C. Offices, Oaklands Drive, Okehampton. Deposit £2 2s., cheques payable to R.D.C. Tenders by May 13.

Perth.—Digging of several pipe tracks in streets, for City Council. Documents from the Water Engineer and Manager, Water Department, Marshall Place, Perth. Tenders by April 23.

***Reading, Berks.**—Richfield Avenue outlet foul sewer, for B.C. Deposit £2 2s. Tenders by April 26.

Richmond, Yorks.—Construction of main sewer, drainage area 10, for B.C., comprising approximately 1,810yd. of 15in. to 27in. diameter concrete pipes; the crossing of the River Swale with two 6in. diameter spun-iron pipes by means of an inverted siphon; siphon chambers, storm water overflow chamber, manholes, and other appurtenant works. Documents from the Borough Engineer and Surveyor, Corporation Offices, Richmond, Yorks. Deposit £2 2s. (cheques payable to Corporation). Tenders by April 25.

***Shrewsbury.**—Supply of machinery, Monkmoor sewage works reconstruction, five contracts, for B.C. Deposit £2 2s. each. Tenders by May 9.

Stafford.—Construction of a sewage pumping station, 1,000yd. of 10in. rising main and approximately 500 lin. yd. of 9in.-12in. diameter gravity sewers, for B.C. Applications to T. H. Higson, borough surveyor, Mount Street, Stafford, by April 16.

Standish-with-Langtree, Lancs.—Sewering Gidlow houses, for U.D.C., comprising the laying of approximately 431 lin. yd. of 6in. diameter concrete pipes, approximately 67 lin. yd. of 6in. diameter pitch fibre pipes, the provision of six precast concrete manholes and other incidental works. Documents from H. Knowles, surveyor and water engineer, Ashfield House, Standish. Deposit £2 2s. Tenders by April 25.

Strood, Kent.—Construction of roads, sewers and small sewage disposal works, together with appurtenant works, on housing site adjacent Swingate Avenue, Cliffe, for R.D.C. Documents from the Engineer and Surveyor, Council Offices, Frindsbury Hill, Strood. Deposit £5 5s. Tenders by April 29.

***Swanscombe, Kent.**—Drainage contract 1, for U.D.C. Deposit £5. Tenders by May 17.

***Worcester.**—Newtown and Redhill relief sewers, for City Council. Deposit £5 5s. Tenders by May 5.

STREET LIGHTING

Cardiff.—Supply for the period ending March 31, 1961, of the following street lighting equipment, for City Council: (1) Concrete lighting columns; (2) lanterns, including lamps and control gear; (3) solar time switches. Documents from the City Surveyor, City Hall, Cardiff. Tenders by May 4.

Castle Ward, Northumb.—Provision and erection of 43 200-W sodium discharge linear lighting units on 35ft. steel columns at North Gosforth, for R.D.C. Documents from G. E. Dimmack, engineer and surveyor, Council Offices, Ponteland, Newcastle upon Tyne. Deposit £2 2s. Tenders by May 4.

***Ealing, Middx.**—Class A street lighting—Uxbridge Road and Boston Road, For B.C. Deposit £5. Tenders by April 27.

Kilwinning, Ayr.—Supply of 73 lanterns to suit the 140-W lamps on the A.78 trunk road, for B.C. Documents from the Burgh Surveyor, Council Chambers, Kilwinning. Tenders by April 29.

***Stourbridge, Worcs.**—Provision and installation of class B street lighting, for B.C. Deposit £2 2s. Tenders by April 29.

Sutton Coldfield, War.—Supply and erection of sodium vapour lamps and lanterns, supply and erection of new steel columns having a mounting height of 30ft., on Tamworth Road, A.453, for B.C. Documents from the Borough Surveyor's Office, Council House, Sutton Coldfield. Deposit £2. Tenders by April 27.

Wandsworth.—Supply and erection of steel and concrete lamp columns and ancillary gear for sodium discharge street lighting scheme, involving 2,600 columns, for B.C. Documents from the Borough Engineer, Municipal Buildings, Wandsworth, S.W.18. Tenders by May 4.

INTERNATIONAL CONTRACT

***Gambia.**—Construction of Barra Ferry terminal, for Government. Deposit £10. Tenders by June 6.

AWARDS

BUILDING AND DECORATING
(See also Housing Schemes)

Ashton-in-Makerfield, Lancs.—Construction of the Edmund Arrowsmith R.C. Secondary Modern School, for the Archdiocese of Liverpool: J. Gerrard and Sons, Ltd., Swinton, Manchester. Estimated cost £150,000. Weightman and Bullen, architects, 76 Rodney Street, Liverpool, 1; Todd and Ledson, quantity surveyors, 31 Old Hall Street, Liverpool, 3; Taylor, Whalley and Spyra, consultant structural engineers, 103 Portland Street, Manchester, 1, and Kenneth J. Adey, Roebuck House, Church Road, Frodsham, is the consultant for the mechanical and engineering services.

Bakewell, Derbys. — Replacement of heating and hot water services (builder's work) and sanitary accommodation in part three accommodation at Newholme Hospital, for Sheffield Regional Hospital Board: W. Malthouse, Ltd., Derbyshire Lane, Sheffield, 8, £22,289 (recommended).

Barnsley, Yorks. — Reorganisation of casualty and out-patient department at Beckett Hospital, for Sheffield Regional Hospital Board: T. Potter and Son, Barnsley, £2,248 (recommended).

Basingstoke, Hants.—Division of wards H and M8 at Park Prewett Hospital, for the Wessex Regional Hospital Board: Downer and Bailey, Ltd., Longclose, Downton, Lymington, £24,375 (recommended).

Birmingham.—Erection of new heat treatment and pickling shops at Nechells, for Stampings Alliance, Ltd. H. W. Weedon and Partners, architects, 45 Calthorpe Road, Edgbaston: Robert M. Douglas (Contractors), Ltd., 395 George Road, Erdington, Birmingham, 23. Estimated cost £45,000.

Blyth, Northumb.—Provision of new lavatory accommodation at Astley Secondary School, for C.C.: W. H. Thirlwell, Blyth, £3,450.

Bolton, Lancs. — Erection of a district depot, comprising a pair of detached bungalows and administration block to serve the Worsley area, for B.C.: Direct Labour (recommended). Estimated cost £8,900.

Boston, Lincs.—Extension of X-ray department at London Road Hospital, for Sheffield Regional Hospital Board: H. H. Adkins, Ltd., Wyberton West Road, Boston, £3,621 (recommended).

Boston, Lincs.—Erection of a combined office building and fire-proof store approx. 46ft. by 18ft., to be brick-built with flat concrete roof, at the rear of the Council offices at 126 London Road, for R.D.C. W. R. Beardall, surveyor: Fredk. Budge, Ltd., 122 Tower Road, Boston, Lincs., £1,520. Work about to commence.

Boston, Lincs.—Stage 11 of the new pavilion at Mayflower Sports Field, for Boston Amateur Sports Association, Ltd., comprising changiung rooms, toilets, squash court and gallery. Tomlinson and Partners, architects, South Street: J. T. Barber and Son, 40 Hessle Avenue, Boston, Lincs., £7,055 (accepted); Fred Peck, Ltd., £7,108; H. H. Adkins, Ltd., £7,244; H. H. Vamplew and Son, Ltd., £7,266; Wm. Wright and Son, Ltd., £7,771; S. Blackham and Son, £7,786; Fred Budge, Ltd., £8,061. Work about to commence.

Bourne, Lincs.—Builder's work for lift at St. Peter's Hospital, for Sheffield Regional Hospital Board: E. Bowman and Sons, Stamford, £3,188 (recommended).

Bournemouth, Hants. — Upgrading of theatre and additions to nurses' classroom at the Royal Victoria Hospital, for the Wessex Regional Hospital Board: Lander, Ltd., Tuckton, Christchurch, £5,575 and £1,079, respectively (recommended).

Brecon.—Erection of a new Council chamber and office accommodation, for R.D.C.: J. Lloyd Stephens, Graig View, Talybont-on-Usk, Brecon, £13,666.

Bury St. Edmunds, Suffolk.—Repainting of 410 houses and flats, eight shops and 34 garages, for B.C.: George Jones and Son, 27b Kensington Church Street, London, W.8, £5,265 and C. A. Plume, 66 Long Brackland, Bury St. Edmunds, £605.

Cardiff.—Repairs to roof and glazing at Sloper Road depot, for City Council: Industrial Engineering, Ltd., £6,957 (recommended).

Cheam, Surrey. — Enclosing of verandas at Cheam Sanatorium, for South West Metropolitan Regional Hospital Board: Howard (Mitcham), Ltd., Wandle House, London Road, Mitcham, £2,170 (recommended).

Chichester, Sussex.—Erection of a twin theatre unit at St. Richard's Hospital, for South West Metropolitan Regional Hospital Board: J. G. Snelling Ltd., 1 Pound Farm Road, Chichester, £54,564 (recommended).

Coleraine, Londonderry.—Improvements at the Chest Clinic, Hanover Place, to comply with the Fire Regulations, for the Coleraine and Portrush Hospital Management Committee: Robert Platt and Sons, West Park, Portstewart, Londonderry.

Connah's Quay, Flints. — Construction of swimming baths and assembly hall, for U.D.C.: J. G. L. Poulson, architects, 29 Ropergate, Pontefract—Frederick Clark and Son, 191 Heyworth Street, Liverpool, 5, £126,888. Work to commence this month.

Coulsdon, Surrey.—Modernisation of the cottage hospital at Cane Hill, for South West Metropolitan Regional Hospital Board: Grace and Marsh, Ltd., New Bridge Works, Waddon, Croydon, £17,895 (recommended).

Dagenham, Essex.—Work in connection with the science laboratory at the County High School, for B.C.: A. Garrod and Sons, Ltd., 2 Tennyson Road, Straight Road, Romford, £4,097 (recommended).

Epsom, Surrey.—Remodelling the stores block at Long Grove Hospital, for South West Metropolitan Regional Hospital Board: Uden and Co. (Epsom), Ltd., 53 South Street, Epsom, Surrey, £12,549 (recommended).

Essex.—Following works, for C.C. H. Conolly, county architect: Additional accommodation at the Harwich County High School—A. Creswell, 86 Fronks Road, Dovercourt, Harwich, £29,999; completion of the Rayleigh Sweyne Grammar/Technical School—Sheppard and Short, Harrow Road, Sudbury, Wembley, £91,087 (work has commenced); erection of Maylands County Secondary Girls' School (the building will be part three-storey and part single-storey, in brick and steel-framed construction)—Thomas Bates and Son, Ltd., The Old Brickworks, Harold Wood, Romford, £145,059 (work has commenced).

Fleetwood, Lancs. — External painting of Corporation houses, for City Council: 112 and 56 houses—J. Preston and Sons, Ltd., Adelaide Street, Fleetwood, £1,433 and £716, respectively; 60 houses—R. Jackson, Fleetwood, £780 (both recommended).

Fulham.—Painting works at the following schools, for L.C.C.: Melcombe Primary—W. H. Cooper and Sons, Ltd., 201 Hammersmith Road, London, W.6, £4,677; Peterborough Primary—Decra, Ltd., Stirling Road, London, W.3, £4,447.

Hazel Grove and Bramhall, Ches.—Construction of 40 lock-up brick garages, for U.D.C. J. Fleming Andrew, engineer: C. N. Taplin, Vine Street, Hazel Grove, £5,193. Work to commence May 1.

Hertford.—Following works, for B.C.: External painting of houses at Stanstead Road and Horns Hill housing estates—62 houses—J. P. Conway, Post Office, Box 47, G.P.O., Welwyn Garden City, £883 (accepted); J. Coldwell, £1,176; Reed and Plackett, £1,116; Pike and Popham, £1,295; 47 houses—Pike and Popham, 136 Bengeo Street, Hertford, £918 (accepted); J. P. Conway, £705; J. Coldwell, £916; Reed and Plackett, £880; 56 houses—J. P. Conway, £708 (accepted); J. Coldwell, £810; Reed and Plackett, £1,120; Pike and Popham, £1,197; 48 houses—J. Coldwell, 13 Trinity Grove, Hertford, £639 (accepted); J. P. Conway, £627; Reed and Plackett, £960; Pike and Popham, £1,026; 29 houses—J. Coldwell, £375 (accepted); J. P. Conway, £328; Reed and Plackett, £522; Pike and Popham, £619 (recommended).

Improvements at All Saints Almshouses—S. and G. Peachey and Sons, Ltd., 42 High Street, Stanstead Abbotts, £3,617 (accepted); A. L. Careford and Sons, £3,823; Crook Bros., £3,893; Botsford and Sons, Ltd., £3,895; Mr. George Collins, £3,985.

Islington.—Painting works at the following schools, for L.C.C.: Hanover Primary—Buckingham and Sons, Ltd., 45 Vivian Avenue, London, N.W.4, £4,055; William Forster Primary—H. Bartlett, 39 Balls Pond Road, London, N.1, £4,060; Rotherfield Primary — W. J. Simms, Sons and Cooke, Ltd., Beddington Lane, Croydon, £4,513.

Kensington. — Painting works at Bousfield Primary School, for L.C.C.: D. P. O'Neill, Ltd., 196 Camden Road, London, N.W.1, £2,592.

Kingsclere and Whitchurch, Hants.—General improvement and modernisation of 1-12 Penwood, Highclere, pre-war Council houses, for R.D.C.: Eades Bros., Ltd., Charlton, Andover, £6,640.

Leicester.—Modernisation of ward six at The Towers Hospital, for Sheffield Regional Hospital Board: Belvoir Building Co., Leicester, £10,475 (recommended).

Lewisham.—Painting works at the following schools, for L.C.C.: Forest Hill — Architectural Decorators, Ltd., 79 Eccleston Square, London, S.W.1, £7,110; Sydenham —P. and M. Contractors, Ltd., 34 Ebury Street, London, S.W.1, £13,977.

Leyton, Essex. — Following works, for B.C.: Repairs to requisitioned properties, etc.—contract (21)—C. J. Fisk, Charis High Road, Chigwell, £3,764; (22)—James Thomas and Sons, Ltd., 341 Seven Sisters Road, N.15, £2,782; (23)—S. C. Grover, Ltd., Grange Works, Clinton Road, E.7, £3,010; (24)—H. Bent, Ltd., 139 Forest Road, E.11, £2,074; painting at Barclay Primary School —E. W. Clare and Co., Ltd., Kirkdale Road, E.11; Goodall Secondary School—S. C. Grover, Ltd.; Lake House Secondary School —E. H. Bull, Ltd., Ilford; Newport Primary School—H. C. Horswill, Ltd., 182 Green Street, E.7; additional sanitary accommodation at County High School for Girls—A. E. Field (Builders), Ltd., 48 Essex Road, Chadwell Heath, Romford (all recommended).

Liverpool. — Following works, for City Council: Repairs, decorations and conversion of ground-floor accommodation into self-contained flats at 157 Bedford Street—N. Broude, 5 Egypt Street, Liverpool, 7, £560; repairs, decorations and conversion into three self-contained flats, 39 Falkner Street—Norman Berry, 11 Mayfield Gardens, Liverpool, 19, £1,550; external painting of 42 houses in Caledonia Street, Sugnall Street and Upper Hope Place—A. and E. Hindley Bros., 2 Grange Street, Rocky Lane, Liverpool, 6, £645; building of an extension to the dog section accommodation at the Mounted Police Department, Greenhill Road—J. B. Johnson and Co., Ltd., 17 Overton Street, Liverpool, 7, £5,004; services for removal of the embedded reliefs in the Pantheon, Garden Temple, greenhouse and staircase at Ince Blundell Hall, the provision of marble panelling to clothe the gaps in the walls and the supervision of the removal of all the sculptures from Ince Blundell to Liverpool—H. Tyson Smith, 49 Bluecoat Chambers, Liverpool, 1, estimated cost £2,095 (all recommended).

Erection of dining hall and kitchen at Wellesbourne Road C.C. School and woodwork room at Croxteth S.M. (Boys') School —J. B. Johnson and Co., Ltd., 17 Overton Street, Liverpool, 7, £13,950 and £10,979, respectively (recommended, subject to M.E. approval).

Erection of a new brick-built diesel locomotive shed at Oswestry filter beds—John Hughes (Contractors), Ltd., 12a Holt Street, Wrexham, £1,665; sections 1, 3, 4, 5, and 7 to 20, inclusive, of the Vyrnwy Aqueduct painting contract, 1960 — H. M. Williams, Oak Street, Oswestry, £1,676 (recommended).

Erection of a prefabricated building in Johnson Street, for use as a temporary mental health centre, and site works—Tyson's (Contractors), Ltd., Dryden Street, Liverpool, 5, £20,976 (recommended, subject to Ministry approval).

London.—Erection of a 10-storey office block, including a new hall for the Bakers' Company at Harp Lane, E.C.3. Trehearne and Norman Preston and Partners, architects, 83 Kingsway, London, W.C.2: Wates, Ltd., 1258 London Road, London, S.W.16; stage one of the City Road and Leonard Street development, for Leigh Commercial Developments, Ltd., comprising basement, ground and six floors (134,000 sq. ft.). A. G. Porri and Partners, architects, 13 Great James Street, London, W.C.1—Higgs and Hill, Ltd., South Lambeth Road, London, S.W.8, £350,000.

Manchester.—Following works, for City Council: Erection of extensions at New Moston Secondary School — Normanton Jones and Co., Ltd., Manchester; erection of Woodhouse Park Community Centre—Vic Hallam, Ltd., Valley Works, Langley Mill, Nottingham; sanitary improvements at Nelson Street Primary School—Direct Labour; additional sanitary accommodation, Ross Place Infants' School—G. W. Dawson and Co. (Builders), Ltd., Harpurhey Road, Lower Crumpsall, Manchester, 8. Subcontractors: Plastering—R. and E. Owen, 1 Pleasant Street, Manchester, 9; painting—Jones and Jackson, Ltd., 28 Oxford Road, Manchester, 1; construction of extensions at Nicholls County Secondary School—Harry

Wimpenny and Sons, Ltd., Clough Sawmills, Prestwich; erection of five shops, five maisonnettes and five garages at Lomond Road, Peel Hall—F. J. Gibson (Builders), Ltd., Manchester Road, Wilmslow; foundation work and design and construction of structural frame for shops and offices at Wythenshawe Civic Centre site—Simon-Carves, Ltd., Cheadle Heath, Stockport; provision and erection of structural steelwork for the modification and alterations to the boilerhouse at Langho Colony to make provision for new boilers and for the reinstatement of a water-storage tank, demolition of cast-iron tanks and the erection of a valve chamber house at Langho Colony—G. Waddington, Whalley, near Blackburn.

Day nursery in Daisy Bank Road, Victoria Park — Direct Labour. Sub-contractors: Paving and plastering—W. J. Roberts and Sons, Ltd., Manchester; quarry tile flooring and wall tiling—Manchester Wall and Flooring Co., Ltd., Manchester; thermoplastic tile flooring—Semtex, Ltd., Salford; linoleum flooring—Masons Square Deal Stores, Manchester; steel and ironwork—Sinclair Steel Erectors, Ltd., Manchester; felt roofing and trunking—Besdek (Roofings), Ltd., Sale; chain link fencing — Durafencing, Ltd., Eccles; site works—S. L. Robinson, Ltd., Cheadle Hulme.

Tenants' meeting room at Kingsgate Road flats, Woodhouse Park — Direct Labour; supply and erection of a proprietary type of prefabricated steel frame and aluminium clad buildings and two overhead tavelling cranes and gantries at the workshops and stores at Heaton Park — Taylor Woodrow (Arcon), Ltd., London, W.1 (all recommended).

Middlesbrough, Yorks. — Alterations to Maternity Hospital, for Newcastle Hospital Board: N. Thompson, Ltd., Stonehouse Street, Middlesbrough, £3,480.

Newcastle upon Tyne. — Alterations for new premises in Mosley Street, for the Leicester Permanent Building Society: Builders—Thomas Clements and Son, Selborne Gardens, Newcastle upon Tyne; steelwork—Redpath Brown and Co., Ltd., Dean Street, Newcastle upon Tyne.

Newcastle upon Tyne.—Construction of a ladies' lavatory at Morden Street, for City Council: H. R. Atkinson and Co., Ltd., Contract House, Ponteland, Northumb., £5,511 (recommended).

Newport, I. of W.—Construction of an autoclave room at St. Mary's Hospital, for the Wessex Regional Hospital Board: G. J. Whitewood and Son, Ltd., 31 Union Road, Ryde, I. of W., £1,770 (recommended).

Northfleet, Kent. — Exterior painting of 106 houses and bungalows on the Wombwell Park estate, for U.D.C., comprising: (Contract 2) 52 houses; (3) 48 houses and six bungalows—Butcher and Moon, 58 Dover Road East, Northfleet, £844 and £864, respectively. Work commenced.

Northumberland.—Primary school at Dinnington, for the C.C. C. C. Brown, county architect: Cawood Wharton and Co., Ltd., Harrogate, £20,000 (first stage).

Nottingham. — Reorganisation of catering facilities at Mapperley Hospital, for Sheffield Regional Hospital Board: Thomas Fish and Sons, Ltd., 567 Woodborough Road, Mapperley, Nottingham, £4,558 (recommended).

Nottingham. — Following works, for City Council: Provision of concrete floors, beams and columns required in connection with the construction of the third magistrates' court, juvenile court and ancillary accommodation—Concrete, Ltd., Craven House, 16 Northumberland Avenue, London, W.C.2, £1,736; public conveniences at Spondon Street—Progressive Builders, Ltd., Lowater Street, Carlton Hill, Nottingham, £4,141 (recommended).

Paddington.—Following, for L.C.C.: Painting works at Essendine Primary and Secondary School — Charles Berger and Son, Ltd., 12 Norfolk Place, London, W.2, £4,432; internal and external painting and repairs to premises at Walterton Road site—Bird and Cargill, Ltd., Bellroc Works, Gloucester Road, London, W.5, £3,554.

Paisley, Renfrews.—Construction of new head office building of 21,700 sq. ft. at 131-137 Renfrew Road, for Rowan and Boden, Ltd., 95 Bothwell Street, Glasgow, C.2: Costain Concrete Co., Ltd., Coltness, Newmains, Lanarks. George F. Brydon, architect, 189 Pitt Street, Glasgow, C.2.

Pembroke Dock. — Erection of fire station, auxiliary buildings and fireman's house at High Street, for Co. Fire Brigade Committee: Hadsphaltic Construction Co., Pembroke Dock, £41,463 (subject to Ministry approval).

Poplar. — Painting works at Cullonden Primary School, for L.C.C.: Wm. J. Jerram, Ltd., Sandford Works, London, E.6, £5,040.

Portland, Dorset.—Adaptations to X-ray and out-patients' department at Portland Hospital, for the Wessex Regional Hospital Board: A. H. Angell, Ltd., Princes Street, Dorchester, £6,390 (recommended).

Portsmouth.—Extension to skin clinic at St. Mary's Hospital, for the Wessex Regional Hospital Board: C. W. Warrington, 65 White Hart Lane, Portchester, Fareham, £2,718 (recommended).

Reading, Berks. — Remedial works at King's Meadow swimming bath, for B.C.: Cementation Co., 20 Albert Embankment, London, S.E.11, £888 (recommended).

Romney Marsh, Kent.—Erection of 18 garages at Marshlands Estate, Dymchurch, for R.D.C.: V. Apps and Son, 2 Salisbury Villas, Sussex Road, New Romney, £1,825 (subject to Ministry approval).

Rotherham, Yorks.—Builder's work for central heating blocks A, B and part E, at Moorgate General Hospital, for Sheffield Regional Hospital Board: Chadwick and Co. (Rotherham), Ltd., College Road, Rotherham, £4,996 (recommended, in lieu of previous tender).

St. Albans, Herts.—Following works, for City Council: Alterations and decorations at 29 Blandford Road—Cockcroft and Preece, Ltd., 223a Hatfield Road, St. Albans, £1,090; alterations and improvements at Batchwood Hall—J. T. Bushell and Son, Ltd., 53 Catherine Street, St. Albans, £22,124 (recommended).

Salford, Lancs.—Adaptations and decorations at 2 New Hall Road, for City Council: Direct Labour, £2,554 (recommended).

Scunthorpe, Lincs.—Following works, for B.C.: Erection of two shops, two houses and a community hall at Priory Lane—H. N. Slingsby, 81 Priory Lane, Scunthorpe, £10,761; construction of 62 garages at Riddings estate and model traffic area shelter and conveniences—F. J. Brown, Ltd., 136 Doncaster Road, Scunthorpe, £11,408 and £1,551, respectively (subject to Ministry approval).

Erection of wash-house and conveniences at Manifold Road caravan site extension—Quibell and Hardy, Ltd., 17 Henry Street, Scunthorpe, £1,949 (recommended).

Sheffield.—Following works, for City Council: Alterations and extensions at Meersbrook Bank County School—A. A. Stuart and Sons, Ltd., 2275 London Road, Carmyle, Glasgow, E.2, £15,600 (recommended, in lieu of previous tender).

Alterations and extensions at Hillsborough County School and Langsett Road County School—Wm. Drabble and Sons, Mosborough, Sheffield, £22,595; and W. Marlow and Sons, Ltd., Holme Lane, Sheffield, 6, £11,387, respectively; alterations and extensions at Sharrow Lane County School—W. Redmile and Sons, Ltd., Parkfield Joinery Works, 118 Alderson Road, Sheffield, 2, £19,966; erection of the Southey Green community centre—Spooners (Hull), Ltd., Glebe Road, Stoneferry, Hull, £16,950 (all recommended).

Painting work at following schools—Meynell (exterior and interior)—Ackroyd and Abbott, Ltd., 47 Willoughby Street, Sheffield, 4, £847 and £3,012, respectively; interior—Carbrook C.E., Grimesthorpe, and Norton—A. Clack, 140 Upperthorpe, Sheffield, 6, £675, £760 and £765, respectively; Acres Hill Infants—H. W. Clack and H. E. Clack, 688 Chesterfield Road, Sheffield, 8, £830; Carbrook, Crookesmoor, Heeley Bank and Sharrow Lane—P. Clixby, 85 Monmouth Street, Sheffield, 3, £1,630, £1,200, £950 and £1,250, respectively; Hammerton, Handsworth and Hillfoot—J. Gee and Son, Ltd., 288 Ecclesall Road, Sheffield, 11, £820, £790 and £793, respectively; Burgoyne Road—W. Ibbotson, 367 Stannington Road, Sheffield, 6, £1,235; Hillsborough—G. Lee, 167 Heavygate Road, Sheffield, 10, £1,398; Abbey Lane, Beaver Hill Secondary, Hucklow Road, Hurlfield Secondary (Girls), Hurlfield Secondary (Boys), Nether Green, Phillimore Road and Tinsley—W. S. Moss (Dec.), Ltd., 187 London Road, Sheffield, 2, £893, £2,045, £919, £2,214, £1,996, £978, £1,198 and £1,127, respectively (all recommended).

Sheffield.—New boiler house at King Edward VII Hospital, for Regional Hospital Board: Ackroyd and Abbott, Ltd., 47 Willoughby Street, Sheffield, 4, £22,924 (recommended).

Sleaford, Lincs.—Staff dining and day room accommodation at Rauceby Hospital, for Sheffield Regional Hospital Board: Fosters Builders, Ltd., Wharf Road, Grantham, £5,088 (recommended).

Southport, Lancs.—Provision of a new shower and changing-room block at King George V School, for B.C.: Main contract—T. Southworth and Sons, Ltd., Southport, £9,308; electrical installation — lighting and heating —S. Druce and Co., Ltd., Southport, £306; cloakroom fittings—Parker, Winder and Achurch, Ltd., Birmingham, £439; Trofdek roof decking, Walpuk curtain walling—H. Newsum, Sons and Co., Ltd., Lincoln, £1,351 (all recommended).

South Shields, Dur.—Erection of dining room and kitchen at Grammar/Technical School, for the E.C.: Gordon Durham and Co., Moor Lane, Boldon, £9,983. J. Smeds, architect, 56a Camden Street, North Shields; R. S. Malloch, 6 Eldon Square, Newcastle upon Tyne, is the quantity surveyor.

Spalding, Lincs.—Conversion of laundry into X-ray department at Johnson Hospital, for Sheffield Regional Hospital Board: Langwith Builders, Ltd., 9 Back Lane, Holbeach, £6,351 (recommended).

Staffordshire.—Following works, for E.C.: Erection of technical grammar school at Cheadle—Tideswell Bros., Ltd., 6 Timmis Street, Shelton, Stoke-on-Trent, £131,795; alterations and extensions to Endon County Secondary School—G. Minshall and Co., 292 Waterloo Road, Cobridge, Stoke-on-Trent, £83,877; alterations to Cheadle County Secondary School—J. Hurst and Son, 3 Bank Street, Cheadle, £3,743.

Stockport, Ches.—Following works, for B.C.: Reconstructed stonework required in connection with the erection of office accommodation at the waterworks department—Girlings Ferro-Concrete Co., Ltd., Rothwell, Leeds, £5,560; extensions at Taxal Lodge Special Residential School—A. I. Redfern and Sons, Spring Bank Sawmills, New Mills, Stockport, £11,690 (recommended).

Sunbury - on - Thames, Middx. — Internal redecoration in about 91 houses, etc., at Beechwood Avenue, Kenyngton Drive, for U.D.C.: C. J. Mitchell and Sons, 19 Morland Avenue, Addiscombe, Croydon, Surrey, £4,146.

Swanage, Dorset.—Extensions and alterations to operating theatre at Swanage Hospital, for the Wessex Regional Hospital Board: J. Drewitt and Son, Ltd., Ringwood Road, Northbourne, Bournemouth, £1,993 (recommended).

Swindon, Wilts.—Following works, for B.C.: Internal painting and renovation at Clarence Street Junior and Moredon Secondary Schools—C. Green, £1,893 and £1,008, respectively; Sanford Secondary and Clarence Street Infants' Schools—Swindon and District Co-operative Society, Ltd., £1,008 and £634, respectively; external painting at The College—Pope Bros., Ltd., £1,015 (recommended).

Waddon, Surrey.—Reinstatement of accommodation at Waddon Hospital, for South West Metropolitan Regional Hospital Board: C. H. Runnalls and Sons, Ltd., 11a Grove Road, Sutton, £17,127 (recommended).

Walton, Surrey. — Remodelling of Walton pumping station and ancillary works, stage I, for M.W.B.: Robert Hart and Sons, Ltd., 121 Victoria Street, London, S.W.1, £15,240 (recommended).

Wandsworth.—Painting works at the following schools, for L.C.C.: Henry Thornton Secondary—Architectural Decorators, Ltd., 79 Eccleston Square, London, W.1, £3,611; Ensham Secondary—South London Decorators, Ltd., 9 Streatham High Road, London, S.W.16, £3,176.

Wolverhampton, Staffs. — Completing the pumphouse building, with artificial stone facing, at Hilton Works, and adapting the pumphouse building at Bratch Works, for B.C.: Direct Labour (recommended). Estimated cost £7,687 and £1,000, respectively.

Woolwich.—Painting works at King's Warren Secondary School, for L.C.C.: Thomas and Edge, Ltd., 52 Macbean Street, London, S.E.18, £7,929.

CLOTHING AND TEXTILES

Nottingham. — Supply of the following, for water department employees, for year commencing April 1, for City Council: Clothing —The City Uniform Manufacturing Co., Ltd., Nottingham; waterproofs—The Castle Rubber Co., Ltd., Warrington; uniform caps —Dillingham and Edwards, Ltd., Luton; overalls — Booth and Fielding, Ltd., Sheffield. Estimated cost £1,907.

DEMOLITION

Leek, Staffs.—Demolition of (a) the Royal Oak and 21 Mill Street, and (b) 159-165 Belle Vue Road, for U.D.C.: G. Baskerville, Martin Street, Cobridge, Stoke-on-Trent; (a) £96 and (b) £76.

Liverpool. — Demolition of three buildings, including blast walls, and one small detached building, and clearance of site at Hammond Road, Kirkby Industrial Estate, for B.C.: J. Rearden and Sons (Liverpool), Ltd., 7a Almonds Green, Liverpool, 12, £520 (recommended).

Manchester. — Demolition of the following, for City Council: Certain buildings in the London Road area, with a view to the clearance of the sites in readiness for the carrying out of works for the diversion of the River Medlock — Flynn Bros. (Contractors), Ltd., 12 Ashton Old Road, Manchester, 12; demolition and clearance of certain buildings, together with requisite builder's work, and demolition of the Chimney stack at Holt Town Cleansing Depot—James Long, Manchester, and Stanton (Steeplejack) Co., Manchester, respectively (recommended).

Mansfield, Notts. — Demolition of Bull Farm housing estate repairs depot, for B.C.: Direct Labour, £120 (recommended).

Reading, Berks. — Demolition of 6 London Street and The Island Bakery, for B.C.: Page and Co., Nine Mile Ride, Wokingham, to pay Council £5 (recommended).

Sheffield.—Demolition of following, for City Council: 44-48 High Street, Ecclesfield, Bungay Street, Granville Lane and Norwich Street (26 dwellings)—S. Williams, £200; 83-85 Broad Lane—Sheffield and Rotherham Dismantling Co., 114 Abbeyfield Road, Sheffield, 4, £100 (recommended).

ELECTRICAL

Basingstoke, Hants. — Electrical services for the division of wards H and M.8 at Park Prewett Hospital, for the Wessex Regional Hospital Board:: R. F. Webb, Ltd., 8 Rockstone Place, Southampton, £4,975 (recommended).

Bishop Auckland, Dur. — Electrical work for additions at general hospital, for Newcastle Regional Hospital Board: F. Warren, Bishop Auckland, £1,018.

Bolton, Lancs.—Electrical installation at Wellington Yard main garage, for B.C.: D. V. Birch, Bolton (recommended).

Doncaster, Yorks.—Provision of lift at Western Hospital, for Sheffield Regional Hospital Board: Gimson and Co. (Leicester), Ltd., Vulcan Road, Leicester, £2,649 (recommended).

Lambeth.—Renewal of electrical installations in dwellings at Aquinas Street, for L.C.C.: H. Dunn and Son, 32 Newington Causeway, London, S.E.1, £3,058.

Lincoln.—Wiring and incidental equipment for a.c. changeover at Harmston Hall, for Sheffield Regional Hospital Board: Grantham Electrical Engineering Co., 6 Wharf Road, Grantham, £714 (recommended).

Manchester. — Following works, for City Council: Conversion to vehicle actuation of traffic control signals at the junctions of Stockport Road/Dickenson Road/Stanley Grove and Dickenson Road/Anson Road/Birchfields Road—Automatic Telephone and Electric Co., Ltd., Strowger House, 8 Arundel Street, London, W.C.2

Electrical installation for extensions at Nicholls County Secondary School—E. M. Evans and Sons, Ltd., Cornell Street, Manchester, 4 (both recommended).

Mickleover, Derbys.—Electrical services for formation area laundry at the Pastures Hospital, for Sheffield Regional Hospital Board: East Midlands Electricity Board, Derby, £3,839 (recommended).

Newcastle upon Tyne. — Lift installation and electrical work at new neurological centre at General Hospital, for Regional Hospital Board: Pickerings, Ltd., Stockton, £17,772, and F. H. Wheeler and Co., Ltd., Newcastle, £28,938, respectively.

Electrical work at plastic surgery theatre at General Hospital: Cairns, Ltd., Newcastle upon Tyne, £1,627.

Seaford, Sussex.—Renewal and improvement of the electrical installation at Bowden House School, Firle Road, for L.C.C.: Rowland and Page, Ltd., Horsham, £3,666.

Sunderland, Dur.—Electrical wiring of 336 houses at Town End Farm, and for similar work at another 253 houses on same estate, for B.C.: John Calvert (Electrical), Ltd., Seaham, £7,483 and £5,766, respectively.

Swindon, Wilts. — Electrical rewiring and improvements at Even Swindon Schools, for B.C.: Ferris Bros., 134 Victoria Road, Swindon, £1,055 (recommended).

West Hartlepool, Dur.—Electrical installation for the new Brierton Hill Secondary Technical School, for E.C.: North of England Engineering and Electrical Co., Ltd., Ferryhill, Co. Durham.

Wolverhampton, Staffs.—Electrical installation in dwellings in the Vauxhalls redevelopment scheme, for B.C.: Midlands Electricity Board, £27,517 (recommended).

FENCING

Chichester, Sussex.—Erection of 3ft. and 4ft. 6in. chain link, and 6ft. close-boarded fencing, together with the supply and fixing of gates, on various existing housing sites in the district, for R.D.C.: Durafencing (London), Ltd., Millbrook Station, Millbrook Road, Southampton, £3,718.

Harrow, Middx.—Provision and erection of cleft chestnut pale fencing at Headstone Lane estate, for L.C.C.: Youngs of Orpington, Ltd., Orpington, Kent, £3,122.

Letchworth, Herts.—Provision and erection of approx. 1,200 lin. yd. of 4ft. high chain link fencing, together with ancillary works, on the Grange estate, for U.D.C. E. L. Johnson, engineer: Peerless Fence and Products, Ltd., Harefield, Middx., £977.

Liverpool.—Supply and erection of fencing and gates on land in Long Lane and Higher Lane, Fazakerley, for City Council: Peerless Fence and Products, Ltd., Harefield, Uxbridge, Middx., £543 (recommended).

Manchester.—Supply of guardrails for the Piccadilly area, for City Council: Peerless Fence and Products, Ltd., Priory Avenue, Harefield, Uxbridge, Middx. (recommended).

Oxhey, Herts.—Provision and erection of cleft chestnut and chain link fencing at Oxhey estate, for L.C.C. Chestnut Products, Ltd., Pembury, Kent, £4,009.

Portsmouth. — Erection of boundary walls and fencing to the additional playing field area for the Southern Grammar School for Girls, for E.C.: John Lay and Co., (Portsmouth), Ltd., 207 Arundel Street, Portsmouth, £2,135.

GAS AND WATER SUPPLY

Bakewell, Derbys.—Improvements to Pilsley and Edensor water scheme, for R.D.C., comprising the construction of about 380yd. of 3in. diameter asbestos-cement or p.v.c. and 960yd. of 4in. diameter asbestos-cement water mains together with a pumping installation and ancillary works. G. Stevenson, engineer and surveyor: Tomlinson and White, 97 Whitecotes Lane, Chesterfield, £2,985 (accepted, subject to Ministry approval); H. Camm and Co., Ltd., £3,348; K.O.S. Construction and Engineering Co., £3,411; Z. and W. Wade (Whaley Bridge), Ltd., £3,851; Tunney (Engineering), Ltd., £4,710.

Cardiff.—Following works, for City Council: Provision of (a) steel pipes, (b) prestressed concrete pipes, and (c) spun-iron pipes for section B of the Llandegfedd water scheme—(a) Clayton, Son and Co., Ltd., Leeds, £24,305; (b and c)—Stanton Ironworks Co., Ltd., Nottingham, £298,957 and £96,998, respectively; construction of the Leckwith Reservoir—Building and Construction Co., Ltd., Shockcrete Works, Rye House, Hoddesdon, Herts., £53,900 (recommended).

Crowthorne, Berks.—Construction of a covered service reservoir of 3,000,000-gallon capacity at Bagshot Heath, for the Mid-Wessex Water Co.: Mitchell Construction Co., 7 Gower Street, London, W.C.1, £62,000.

Freebridge Lynn, Norfolk. — Proposed water scheme, parish of Westacre, for R.D.C.: Laying of approx. 3,000yd. of 3in. spun-iron mains and ancillaries. W. R. Watkins, surveyor—A. R. Cleghorn and Co., Ltd., 34-36 Harvey Lane, Norwich, £8,581 (accepted); J. A. Sandover and Co., £8,749; F. W. Shanks, Ltd., £9,326; James Cooper (Construction), Ltd., £10,096; K.O.S. Construction and Engineering Co., £10,718.

Liverpool. — Cleaning and dredging of approaches to Yarrow and Lower Rivington reservoirs, for City Council: A. E. Yates, Ltd., Herbert Street, Horwich, Lancs., £2,200 (recommended).

St. Helens, Lancs.—Following, for B.C.: Water supply contract 2149: 18in. trunk water main from Huyton Lane, Melling, near Liverpool, to Knowsley Pumping Station, Hewitts Lane, Knowsley; water supply contract 2150: 21in. trunk water main from the Royal Oak public-house, East Lancashire Road, to the Windle roundabout, East Lancashire Road; excavation, laying and jointing of approximately 6,000 lin. yd. of 18in. diameter spun-iron water main and 2,000 lin. yd. 2in. diameter spun-iron water main, together with all appurtenant works. M. Ward, borough and water engineer: A. Brett (Contractors), Ltd., Grimsargh, near Preston, and Border Engineering Contractors, Ltd., 125 Queen Street, Whitehaven, respectively.

Sheffield. — Supply of following, for City Council: Miscellaneous small iron castings during the period April 1, 1960, to March 31, 1963—Moorwoods, Ltd., Harleston Iron Works, Sheffield, 4, at an approx. annual cost of £3,585; flow, level and pressure recording, indicating and integrating equipment required at the Oaks Water Tower and Service Reservoir—George Kent, Ltd., 140 Ringinglow Road, Sheffield, 11, £2,633 (recommended).

Stockport, Ches.—Sinking of boreholes at Goyt Valley, for B.C.: J. Thom, Ltd., Chaddock Lane, Walkden, Manchester, £11,162 (recommended).

HARBOURS, PIERS AND SEA DEFENCE WORKS

Southwold, Suffolk.—Coast protection works in the vicinity of the Pleasure Pier, for B.C.: Lehane Mackenzie and Shand, Ltd., Normanhurst, Matlock, Derbys., £46,530 (recommended, subject to Ministry approval).

HEATING AND VENTILATING

Basingstoke, Hants.—Engineering services for division of wards H and M.8 at Park Prewett Hospital, for the Wessex Regional Hospital Board: Norris Warming Co., Ltd., 38-40 Elm Grove, Portsmouth, £2,215 (recommended).

Hammersmith. — Installation and improvement of central heating at Palingswick House, for L.C.C.: C. H. Kempton and Co., Ltd., 67 Salcott Road, London, S.W.11, £7,106.

Manchester.—Heating, hot water and gas installations for extensions at Nicholls County Secondary School, for City Council: James H. Enion and Son, Ltd., Manchester (recommended).

Middlesbrough, Yorks.—Supply and installation of heating system and other mechanical services at the Corporation's new central works depot. J. A. Kenyon, borough engineer: Hope's Heating and Engineering, Ltd., Leeds, £25,089.

Norwich.—(a) Installation of a central heating system and alterations to the domestic hot water supply at The Oaks, and (b) the necessary builders', plumbers' and electrical work in connection with the installation, for City Council: (a) Beaven and Sons, Ltd., 55 Prince of Wales Road, Norwich, £1,359; and (b) Direct Labour, £636 (recommended).

Stockport, Ches.—Heating installation at Dial Stone Secondary School extensions, phase I, for B.C.: J. H. Hicks and Co., Ltd., Richard Street, Stockport, £6,960 (recommended).

Swindon, Wilts. — Conversion to oil-firing of boilers at Pinehurst Infants' and Junior Schools, for B.C.: P. G. Hennion, High Street, Shrivenham, Swindon, £3,538 (recommended).

Wolverhampton, Staffs. — Two Potterton boiler/burner units, complete with ancillary equipment, in connection with the digester heating scheme at Barnhurst sewage disposal works, for B.C.: A. L. Hughes (Heating Engineers), Ltd., 75 North Street, Wolverhampton, £1,743 (recommended).

HOUSING SCHEMES

Banstead, Surrey.—Eight married staff houses at Banstead Hospital, for South West Metropolitan Regional Hospital Board: Challenge Construction Co., Ltd., Giggs Hill Garden, Thames Ditton, £20,469 (recommended).

Basingstoke, Hants. — Sixteen bungalows at Belle Vue Road, Basing, for R.D.C.: A. Monger, Ltd., The Forge, Sherborne St. John, Basingstoke, £20,566.

Birkenhead, Ches.—Forty-six houses, 14 shops and 11 garages at Prenton Dell estate, for B.C.: Sir Robert Lloyd and Co., Bromborough, £120,995 (recommended).

Bridge-Blean, Kent. — Twelve houses at Chislet, for R.D.C.: G. Lewis and Sons (Dover), Ltd., 14 Widred Road, Dover, £14,694.

Bristol. — Following works, for the Housing Committee: Five-storey block of flats and maisonnettes at Ashley Down Road—Benson Bros. (Bristol), Ltd., Carlton Lodge, Patchway, Bristol, £102,951; five-storey block of three flats, 12 maisonnettes, laundry, stores and external works at Freemantle Road, Kingsdown—Caines Bros. (Bristol), Ltd., Bedford Street, Bristol, 5, £37,487.

Buckingham.—Sixteen old people's bungalows at the Pightle Overn Hill Estate, for B.C.: J. S. Cowley and Son, 71 High Street, Stony Stratford, Wolverton, £18,621.

Cheltenham, Glos. — Fifteen flats and three houses at junction of Devon Avenue and Alstone Lane, for B.C.: Arthur Bowd, Ltd., £25,548 (recommended).

Edinburgh.—Erection of 304 multi-storey flats at Muirhouse, for City Council: George Wimpey and Co., Ltd., 37 Drumsheugh Gardens, Edinburgh, 3, £613,415.

Felling, Dur.—One hundred and five flats and 18 houses in the Wellington Street area, for the U.D.C. R. Morton, surveyor: John Clark and Son (New Seaham), Ltd., Gregson Terrace, New Seaham, Co. Durham.

Glastonbury, Som.—Twenty-one dwellings, 18 garages and five stores at Windmill Hill estate, for B.C.: J. M. Hillier and Son, 12 West Street, Wells, £38,806 (recommended).

Hertford. — Erection of following, for R.D.C.: (a) Little Amwell, eight Rebecca bungalows, Downfield Road; (b) Tewin, 12 three-bedroom houses, four bungalows, and 11 garages at Grass Warren, together with some siteworks in each case. D. C. Denton-Smith and Partners, architects 40

Regent Street, Cambridge: (a) Walker and Titmus, 10 The Quadrant, Letchworth, and (b) Mustoe Bros., Burford Street, Hoddesdon. Work to commence June 1.

Jarrow, Dur.—Eighty-four houses in the Boldon overspill area, for the B.C. H. W. T. Perkins, borough engineer: Whittal (Builders), Ltd., West Boldon, Co. Durham, £120,016 (in lieu of previous tender).

Kingsclere and Whitchurch, Hants.—Two pairs of bungalows and two pairs of houses, including site and drainage works, etc., at housing site 87, Heatheralls, for R.D.C. Henshaw and Cheek, architects, 26a High Street, Andover: W. Meadham and Son, George Street, Kingsclere, near Newbury, Berks., £10,549 (accepted); Birkett and Co. (Salisbury), Ltd., £10,603; Eades Bros., Ltd., £11,014; Alan Howard Industries, £13,757; W. M. Annette and Co., Ltd., £16,484. Work about to commence.

Kirkburton, Yorks.—Four houses, for U.D.C.: Gregory Housing, Ltd., 21 Farncombe Road, Worthing.

Liverpool. — One hundred and twenty-eight dwellings and 48 garages on the site of Beechwood portion 2 project, for City Council: Direct Labour (recommended, subject to Ministry approval). Estimated cost £236,945.

Manchester.—Following works, for City Council: 27 dwellings at Partington and seven aged persons' bungalows at Knob Hall, Newall Green — Direct Labour; two aged persons' dwellings at Platt Lane, Wilbraham estate—E. V. Hughes and Partners, Platt Lane, Manchester, 14; 12 dwellings at Lightbowne Road, Moston, and 48 dwellings at Fairbourne Road, Levenshulme—F. Gannon and Son (Manchester), Ltd., 64 Osborne Road, Manchester, 19 (all recommended, subject to Ministry approval).

Meriden, War.—One hundred and four dwellings, for R.D.C.: W. J. Simms, Sons and Cooke, Ltd., 133 Marshall Lake Road, Shirley, Birmingham, £173,336.

Morley, Yorks.—Seventy-eight houses on the Moorhead estate, for B.C.: Harlow and Milner, Ltd., Warrengate, Wakefield, £107,411 (recommended, subject to Ministry approval).

Norwich.—Forty-two dwellings at Heartsease housing estate, for City Council: Direct Labour, £57,528 (recommended).

Padiham, Lancs.—Sixteen houses for U.D.C.: Gregory Housing, Ltd., 21 Farncombe Road, Worthing.

Plymouth.—Following works, for City Council: Eighty-eight flats, 16 garages and two laundries at Albert Road (in traditional construction and new tradition construction) —Selleck Nicholls and Co., Ltd., Hill House, East Hill, St. Austell, £142,878; 40 flats at Castle Street — F. J. Stanbury, Ltd., Alexander Road, Plymouth, £68,038 (recommended, subject to Ministry approval).

St. Albans, Herts.—Provision of covered ways for D-type houses, for City Council: Cockcroft and Preece, Ltd., 223a Hatfield Road, St. Albans, £1,163 (recommended).

Stockport, Ches.—Sixty-seven dwellings and 11 garages, contract 48b, at Brinnington neighbourhood unit, for B.C.: Poole and Foster, Ltd., 27 Plymouth Avenue, Manchester, 13, £99,322 (recommended).

Stockton-on-Tees, Dur. — Fifty-seven houses on the Hardwick Estate, for the B.C. T. C. Hartley, borough architect: L. Brown and Son, Boathouse Lane, Stockton, £87,335.

Sunderland, Dur. — Ten bungalows at Ryhope Street, Ryhope, for the R.D.C. C. Emmerson, surveyor: Direct Labour.

Swindon, Wilts. — One hundred and ninety-eight Easiform dwellings and 76 garages at Park South neighbourhood, stage five, for B.C.: John Laing and Son, Ltd., Mill Hill, London, N.W.7, £335,128 (recommended).

Towcester, Northants. — Following, for R.D.C.: (Contract 1) Towcester—Burcote Road — eight three-bedroom-type houses, together with drainage and site fencing; (2) Blisworth — Connegar Leys—six three-bedroom-type houses, together with street kerbing, slab paving, etc.; (3) Yardley Gobion—Warren Road—four two-bedroom bungalows, together with foul and surface water drainage; (4) Maidford—New Road—two two-bedroom-type houses, together with drainage, site fencing and tarmacadam paving. Geo. Berridge, surveyor: (1) and (2) Haynes and Sons (Daventry), Ltd., High Street, Daventry, £11,825 and £8,555, respectively; (3) J. S. Cowley and Son, High Street, Stony Stratford, £4,985; (4) Haynes and Sons (Daventry), Ltd., High Street, Daventry, £2,675 (subject to Ministry approval).

West Hartlepool, Dur. — Fifty-four Clinecon houses for the North-Eastern Housing Association, Windsor Terrace, Newcastle upon Tyne. Matkin and Hawkins, architects, Barclays Bank Chambers, Fawcett Street, Sunderland: Thomas Armstrong, Ltd., Robson Street, Newcastle upon Tyne.

MATERIALS AND SUPPLIES

Dagenham, Essex. — Supply of 220,000 sand lime bricks, for B.C.: R. G. Ward and Co., Ltd., Chadwell Heath Lane, Chadwell Heath, Romford, £1,881 (recommended).

Reading, Berks.—Supply of traffic signs and posts, for B.C.: Royal Label Factory, Stratford-on-Avon, £1,251; and Bergo, Ltd., Queen Mary's Avenue, Watford, £799 (recommended).

Sheffield. — Supply of 17,000 galvanised Omega pattern dustless refuse collection ashbins, 2½ cu. ft. capacity (with hinge fitting to work with Shefflex shutter and with embossed lid attached) during the year ending March 31, 1961, for City Council: Bower Lane Manufacturing Co., Ltd., Brierley Hill, Staffs. 45s. 8d. per bin (less 2½ per cent. discount plus 6s. 8½d. purchase tax) (recommended).

Stockport, Ches.—Supply of B.S.S. dustbins and lids, for B.C.: Railway and General Stores Contractors (1953), Ltd., 675 Salisbury House, E.C.2, 30s. 1d. each (recommended).

Wolverhampton, Staffs.—(a) Refuse chutes, and (b) curtain walling and special metal windows for dwellings in the Vauxhalls redevelopment scheme, for B.C.: (a) Broads Manufacturng Co., Ltd., 4 South Wharf, London, W.2, £1,294, and (b) Metal Casements, Ltd., Birch Street, Walsall, £3,641 (recommended).

PLANT AND MECHANICAL TRANSPORT

Bolton, Lancs.—Supply of following, for B.C.: Two Karrier Bantam 4/5-ton diesel tractor units—Rootes, Ltd., Manchester, estimated cost £1,634; one Fordson 2-ton van—J. Ollerton and Co., Bolton, estimated cost £946; 7/5 concrete mixer—Winget, Ltd., Rochester, Kent, estimated cost £519; A. Johnson L.A. mobile conveyor—McCreath, Taylor and Co., Ltd., Bolton, estimated cost £534 (all recommended).

Burton Latimer, Northants. — Supply of an all-steel petrol-driven Karrier Bantam 10 cu. yd. refuse collector, for U.D.C. Vehicle to be painted, lettered and ready for use. Allowance to be made for vehicle now in use: Hamblins Garage, Rectory Road, Rushden, £902 (accepted); Johnsons Motors, Ltd, £913; A. Mulliner, Ltd., £915; Rootes, Ltd., £941; Thompsons Motors, Ltd., £943; Emmetts Garage, £960.

Cardiff. — Supply of the following, for City Council: One Ford Thames 3-ton l.w.b. lorry with Neal hydraulic lorry loader and towing attachment—The Godfrey Motor Co. (Cardiff), Ltd., North Road, Cardiff, £1,190; one Thames Trader 108 tractor, with Tasker 12-ton low loading semi-trailer—Furrows, Ltd., £2,138; one WR 120 Whirlwind Uniflo rotary vane type compressor, mounted on Ford Thames 30cwt. chassis/cab —H. Richards and Co., Ltd., Rodney Road, Newport, £1,498; one Simon hydraulic platform, standard model, mounted on a 5-ton l.w.b. f/c Bedford chassis/cab, diesel engine —Arlington Motor Co., Ltd., Dumballs Road Garage, Cardiff, £3,688 (recommended).

Dagenham, Essex.—Supply of one Karrier Bantam tipper, for B.C.: Ray Powell, Ltd.,

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374 Eastern Avenue, Ilford, £975 (recommended).

Grantham, Lincs.—Supply of a refuse collection vehicle, for B.C.: Shelvoke and Drewry, Ltd., Letchworth, Herts., £2,930 (recommended).

Horsforth, Yorks.—Supply of one Karrier Yorkshire road sweeper collector, fitted with the manufacturer's standard equipment, including channel scarifying brush for U.D.C.: Cox and Co. (Leeds), Ltd., Regent Street, Leeds, 2, £2,930, less allowance on present sweeper, £50.

Manchester.—Supply of an additional bulk loading vehicle complete with container truck, for City Council: Shelvoke and Drewry, Ltd., Letchworth, Herts. (recommended).

Newcastle upon Tyne.—Supply of refuse collection vehicle, for City Council: Charles G. S. Buist, Ltd., Newcastle upon Tyne, £2,053.

Plymouth. — Supply of (a) one International 50.5-h.p. BTD.6 crawler tractor fitted with Drott skid shovel, with one cu. yd. bucket and four-in-one bucket, and (b) one tractair with shovel attachment, for City Council: Bristol Plant Hire, Ltd., Brislington Trading Estate, Bath Road, Bristol, 4, £3,528 and £1,508, respectively (recommended).

Sheffield. — Supply of 12 18/20 cu. yd. Shefflex patent dustless, self-loading and compacting refuse collection vehicles, equipped with all necessary ancillaries, for City Council: Shefflex, Ltd., Sheffield, £3,322 each.

Swindon, Wilts.—Supply of Massey Ferguson industrial tractor, digger and shovel, complete with ancillaries, and Massey Ferguson diesel engine tractor, with hydraulic linkage and ancillaries, for B.C.: Bartrop and Co., Highworth, £1,931 and £661, respectively (recommended).

Torquay, Devon.—Supply of a new normal-control 3-ton Bedford truck, and the taking in part exchange of a 1953 Bedford 3-ton truck, for B.C.: Reid and Lee, Ltd., Newton Road, Kingsteignton, Newton Abbot, £864 (accepted); Tom Brown and Son (Torquay), Ltd., £873.

PLAYING FIELDS, PARKS, ETC.

Bolton, Lancs.—Preparation of playing fields at Breightment County Junior School, for B.C.: En-Tout-Cas Co., Ltd., Syston, Leicester (recommended). Estimated cost £2,665.

Hartlepool, Dur.—Construction of a bowling green and two tennis courts at the King George V Field, together with roadway, footpaths and other ancillary works, for B.C. J. Wilkin, borough engineer: Maxwell M. Hart (Glasgow), Ltd., Chronicle Buildings, Corporation Street, Manchester, 4, £8,103. Work commencing April 20.

Kidsgrove, Staffs.—Complete reconstruction of Clough Hall football field, for U.D.C. The works comprise the breaking-up of the existing surface, drainage, filling to low areas, grading, soiling and seeding. J. C. A. Symms, engineer and surveyor: F.H.M. Contractors, Ltd., Brook Lane, Newcastle, Staffs., £3,269.

Leyton, Essex.—Provision of a skating rink at Marsh Lane playing fields, for B.C.: H. V. Smith and Co., Ltd., Walkden House, 3-10 Melton Street, London, N.W.1, £2,429 (recommended).

Manchester.—Following, for City Council: Layout of playing fields at Abbey Hey County Primary School —R. W. Fletcher, Ltd., Nuneaton; constructional additional playground area at St. Philip's C. of E. School, Hulme—Burke and Roberts, Ltd., Stockport (both recommended).

Portsmouth. — Drainage, preparation and turfing of additional playing field area for the Southern Grammar School for Girls, for E.C.: Direct Labour. Estimated cost £1,291.

Sheringham, Norfolk. — Construction of gardens at the Grand Leas, on the cliff top above West End promenade, for U.D.C., H. Bullen and Son, Ltd., Central Road, Cromer, £5,295.

Wolverhampton, Staffs.—Landscaping work in the Wright Street redevelopment area, for B.C.: Direct Labour, £1,527 (recommended).

RAILWAY ENGINEERING

British Railways.—Following contracts placed:

Southern Region:

Eastleigh Carriage and Wagon Works: electrical installation—Geo. E. Taylor and Co. (London), Ltd., London, S.E.1.

Ashford (Kent): supply of steelwork for Essella Road footbridge—Dawnays, Ltd., Battersea, S.W.11.

Hither Green Motive Power Depot: renovations — Alfred Bagnall and Sons, Ltd., Teddington, Middx.

Lancing Carriage Works: recladding to Pullman car and gas shops—Structural Waterproofers, Ltd., London, W.6.

Horsley: new car park—E. C. MacDermot and Co., Wembley, Middx.

Redbridge Works: glazing and walkways to foundry roof—Maurice Hill, Ltd., Horndean, Hants.

Chichester Station: new warehouse—B. L. Hale and Son, Ltd., Bognor Regis.

Surbiton: improvements to public inquiry office—G. E. Wallis and Sons, Ltd., London, W.C.2.

Extension of electrification, Kent Coast line, phase II: erection of lineside fencing and alterations to existeng—Peerless Fence and Products, Ltd., Harefield, Middx., and Pembury Fencing and Co., Ltd., Pembury, Kent.

RIVER AND FLOOD PREVENTION WORKS

Swindon, Wilts.—Further improvement works to the Dorcan Stream, for B.C.: Direct Labour (recommended). Estimated cost £4,080.

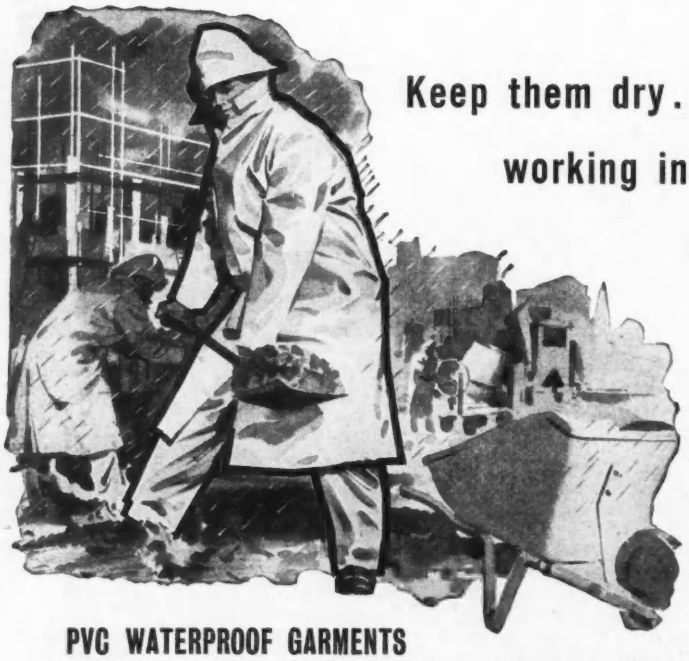
ROADS, BRIDGES AND SITE WORKS

Ampthill, Beds. — Construction of approximately 880 lin. yd. of carriageway, with kerbs, channels, hardcore foundations and tarmacadam surface, earthworks, soil and surface water sewers and watermains at Council's housing estate, Flitwick, stage III, for R.D.C.: F. and R. Cawley, Ltd., 62 Wintarmacadam surface, earthworks, soil and gate Road, Luton, £12,572.

Bangor, Caerns.—Making-up of Hwfa Road and Bulkeley Road, for B.C.: Edward Jones (Contractors), Ltd., Penmaenmawr, £1,776 and £676, respectively (recommended).

Blandford, Dorset.—(a) Demolition work and (b) construction of a new car park at Church Street/Anchor Gateway, for B.C.: Roads Reconstruction (1934), Ltd., Stoneleigh House, Frome, Som., £1,033; and £824, respectively (recommended).

Cardiff.—Following works, for City Council: Asphalt surfacing, 1960-61—Western Trinidad Lake Asphalt Co., Ltd., Asphalt House, St. Mary Street, Cardiff; provision of a trolley bus turning space at Whitchurch



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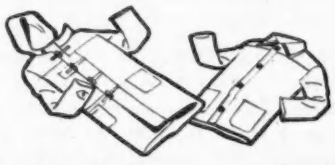

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Road—Davies, Middleton and Davies, Ltd., 317 Caerphilly Road, Cardiff, £9,348; improvement of Llanedeyrn Road—T. Gallagher and Son, Ltd., £32,347; aerial survey for proposed docks access roads—B.K.S. Air Surveys, Ltd., London, W.1, £2,891 (recommended).

Cheadle and Gatley, Ches.—Making-up of (a) Moss Mere Road (part), (b) Worcester Road, for U.D.C. Duncan S. Graham, engineer and surveyor: W. Snape and Sons, Ltd., Clifton House, Clifton Road, Eccles, Manchester.

Cheltenham, Glos. — Improvement of Hatherley Lane, for B.C.: Chesford Construction Co., Ltd., Parton Road, Churchdown, £24,064 (recommended).

Cumbernauld, Dunbarton. — Following, at Kildrum 5 (housing) development, for Development Corporation: 4,500 sq. yd. of slab paving; 5,000 sq. yd. of asphalt paving; 3,500 sq. yd. of sett paving; 3,000 sq. yd. of other types of hardpaving; 8,000 lin. yd. of whinstone and concrete kerbing; mass and reinforced concrete retaining walls and ancillary works—William McCully and Sons, Bellshill, Lanarkshire, £32,970.

Dagenham, Essex.—Following works, for B.C.: Reconstruction of Dagenham East Station Bridge and improvement of Romford Road (part)—W. and C. French, Ltd., 50 Epping New Road, Buckhurst Hill, Essex, £11,872 and £24,372, respectively; improvement between Peregrine Road and New North Road—H. V. Smith and Co., Ltd., Walkden House, 3-10 Melton Street, London, N.W.1, £2,828 (all recommended).

Evesham, Worcs. — Preparation of Bewdley Lane housing site, for B.C.: Espley and Co., 77 High Street, Evesham, £5,759 (recommended).

Grantham, Lincs.—Making-up of Kitty Briggs Lane, for B.C.: Direct Labour (recommended). Estimated cost £4,750.

Harlow, Essex. — Construction of road E.6 from just north of the newly constructed Burnt Mill railway bridge to the Sawbridgeworth-Hertford Road, A.414, for Development Corporation. O. W. Gilmour, engineer: J. A. Stirling, Ltd., Fretherne Chambers, Welwyn Garden City. Work to commence April 24.

Hove, Sussex.—Construction of two bituminous macadam tennis courts at the Knoll recreation ground, for B.C. T. R. Humble, engineer and surveyor: W. H. Gaze and Sons, Ld., The Gazeway, 139, Roehampton Vale, London, S.W.15, £1,549.

King's Lynn, Norfolk. — Construction of approximately 4,250 sq. yd. of carriageways, laying 650 lin. yd. of sewers and 1,300 lin. yd. of water mains, together with ancillary works, at Mill Lane site, off Wootton Road, stage I, for B.C.: J. L. Kier and Co., Ltd., Setch, King's Lynn, £15,704. Work commencing May 1.

Maesteg, Glam. — Widening of the existing road bridge over the River Llynfi at Bridge Street, for U.D.C. G. A. Williamson, engineer, Oakwood Chambers, Station Road, Port Talbot: T. R. Williams, 167 Park Street, Bridgend, Glam., £12,303. Work has commenced.

Manchester. — Following works, for City Council: Road and sewer works at Councillor Lane, Cheadle overspill site—Bituminous Surfacing, Ltd., Manchester; provision and laying of various types of asphalt carpeting—Trinidad Lake Asphalt Co. (North Western), Ltd., Liverpool; Asphaltic Roadways, Ltd., and Val de Travers Asphalte, Ltd., both of Salford; Davies Bros. (Asphalters), Ltd., Manchester (all recommended).

Newcastle upon Tyne. — Supplying and laying hot asphalt road surfacings or supply and delivery only of hot asphalt road surfacing materials, for City Council: Limmer and Trinidad Lake Asphalt Co., Ltd., 47 Blackett Street, Newcastle, £23,992.

Northfleet, Kent.—Following, for U.D.C.: Private strets works—the construction of streets totalling some 8,200 sq. yd. of hardcore and macadam carriageways, with footpaths and surface water drainage; sewers—the laying of some 2,500 lin. yd. of 6in. diameter sewers, up to 18ft. in depth, together with some 630 lin. yd. of 4in. house drain connections: Mears Bros., Ltd., 154-158 Sydenham Road, London, S.E.26, £51,006.

Penarth, Glam.—Construction of approximately 11,000 sq. yd. of in-situ concrete carriageway, 5,000 lin. yd. of 6in. to 18in. concrete and stoneware soil and surface water sewers at Morristown (extension) housing estate, for U.D.C.: Maberly Parker, Ltd., Ynys Yard, Taffs Well, Glam.

Reading, Berks.—Following works, for B.C.: Construction of footways and verges at the Blagdon Road housing estate—British Estate Services, Ltd., Bath Road, Reading, £4,368 (recommended, subject to Ministry approval).

Drainage and paving of the Cattle Market car park—Aubrey Watson, Ltd., Station Yard, Henley-on-Thames, £6,178 (recommended).

Royston, Herts.—Surface dressing of approximately 16,142yd. of district road, for U.D.C.: Edward J. Edwards (Norwich), Ltd., Norwich ,£907 (accepted); W. and J. Glossop, Ltd., £924; Tarroads, Ltd., £1,008; H. V. Smith and Co., Ltd., £1,025.

St. Albans, Herts. — Making-up Mount Drive and The Rise, for City Council: J. Sugrue and Sons, Ltd., 194 Kilburn High Road, London, N.W.6, £14,972 (recommended).

Sheffield. — Heating and planing of road surfaces at a cost of 6½d. per sq. yd. for one cut deep and 4d. per sq. yd. for second and subsequent cuts (total area concerned is estimated at 20,000-25,000 sq. yd.), for City Council: East Anglian Roadstone and Transport Co., Ltd., 66 Bracondale, Norwich (recommended). Total cost £700-£1,000.

Southport, Lancs. — Following works, for B.C.: Asphalt surfacing works on the Scarisbrick New Road, between Virginia Street and Ash Street; Liverpool Road, between the St. Thomas More School and the traffic roundabout at Ainsdale; Nevill Street, between Lord Street and Bath Street—Trinidad Lake Asphalt Co. (North Western), Ltd., India Buildings, Water Street, Liverpool, 2, £8,238.

Heating and planing of carriageways at a cost of 10d. per sq. yd. for tarmac surfaces, and 11d. per sq. yd. for carpet coats, for a total area of appoximately 33,930 sq. yd.—Non-Impact Surfaces, Ltd., Ibex House, Minories, London, E.C.4. Total estimated cost £1,511 (both recommended).

Stockport, Ches.—Following works, for B.C.: Site works for 132 garages at various sites at Brinnington and Reddish — Lowe, Millward and Scully, 6 Rostherne Road, Wilmslow, £7,381; making-up Barnfield Road East—M. J. Finn, 43 Lytton Avenue, Manchester, 8, £5,839; construction of laybys in Bramhall Lane, Shaw Heath and Heaton Moor Road—James A. Cuss, £1,807;

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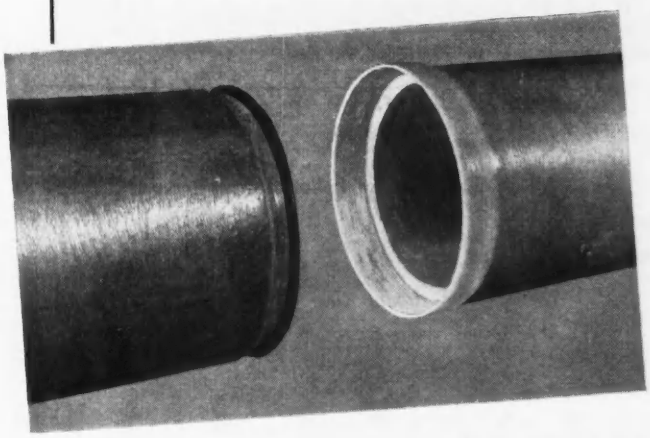

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tar spraying—Road Maintenance Services, Ltd., Mowpen Brow, High Legh, Lymm, 3.125d. per sq. yd. (all recommended).

Sunderland, Dur.—Reconstruction and widening of Chester Road Bridge, for B.C.: T. Donkin, borough engineer: Direct Labour, £19,823.

Wolverhampton, Staffs.—Following works, for B.C.: Construction of roads and sewers at Pond Lane housing site—Three Counties Construction Co., Ltd., 32 Fairview Road, Penn, Wolverhampton, £3,469 (recommended).

Construction of access road and necessary preparation works at garage site in Thompson Avenue: Direct Labour (subject to Ministry approval). Estimated cost £2,330.

SEWERAGE, SEWAGE AND REFUSE DISPOSAL

Bellingham, Northumb.—Sewerage and sewage disposal scheme at Otterburn, for R.D.C. E. G. Lediard, consulting engineer, 4 Eldon Square, Newcastle upon Tyne: J. W. and S. Dorin, 64 Grosvenor Drive, Whitley Bay.

Bridge-Blean, Kent.—Construction of Chislet (Hollow Street) sewerage and sewage disposal scheme, for R.D.C.: G. Lewis and Sons (Dover), Ltd., 14 Widred Road, Dover, £3,619.

Chapel-en-le-Frith, Derbys.—Construction of a sewage disposal works extension, comprising tanks, filters, pump house, etc., together with approximately 570yd. of 9in. and 12in. sewers, and all incidentals thereto, in the parishes of Castleton and Hope, for R.D.C. Brady and Partington, consulting engineers, Market Street, Chapel-en-le-Frith: Z. and W. Wade (Whaley Bridge), Ltd., Buxton Road, Whaley Bridge, Stockport, £30,150. Work is expected to commence this month.

Chislehurst and Sidcup, Kent. — Following works for U.D.C. W. B. Farrow, engineer and surveyor: foul water sewer extension, North Cray, comprising 1,720 lin. yd. of 9in. and 6in. soil sewers and 800 lin. yd. of 4in. soil drains, together with manholes, inspection chambers and ancillary works: Tierney and Maguire, Ltd., Regal Works, 26 Dudley Drive, Morden Park, Surrey, £9,719 (work commencing May); surface water sewer, Elmstead Lane, Chislehurst—Farnborough Civil Engineering and Construction Co., Ltd., Briargate, Ottershaw, Chertsey, Surrey, £1,670 (work commencing April 16).

Morley, Yorks.—Mechanical plant for Dewsbury Road sewage disposal reconstruction scheme, for B.C.: William E. Farrer, Ltd., 270 Attercliffe Road, Sheffield, 4, £38,900 (recommended).

Newcastle upon Tyne.—Sewer works at Eastfield Avenue, for B.C.: Direct Labour, £1,660 (recommended).

Nottingham.—Construction of outfall sewers to serve the Bestwood Park housing estate, for City Council: Sir James Miller and Partners, Hayes, Middx., £49,748 (recommended).

Plymouth. — Provision of a foul sewer at Ringmore Way, St. Budeaux, for City Council: Direct Labour (recommended). Estimated cost £1,607.

Poole, Dorset.—Construction of sewage pumping station, rising main and gravity sewers at Broadstone, for B.C.: James Drewitt and Son, Ltd., Ringwood Road, West Howe, Bournemouth, £15,922.

Reading, Berks.—Laying of 6in. foul sewer at the rear of 62-80 Whitley Wood Road, for B.C.: Farnborough Civil Engineering and Construction Co., Chertsey, £920 (recommended).

Rowley Regis, Staffs.—Construction of Hill Road stormwater sewer and Dudley Road, West foul sewer, for B.C.: Ward and Birks, 66 Wolverhampton Road West, Walsall, £2,404.

Sheffield.—Supply of following, for reconstruction and extension of sewage disposal works, for City Council: Air blowing plant —W. C. Holmes and Co., Turnbridge, Huddersfield, £2,072; electrically operated cast-iron penstocks — Hartleys (Stoke-on-Trent), Ltd., £10,50; supply and erection of rotary scraper—William E. Farrer, Ltd., 270 Attercliffe Road, Sheffield, 4, £1,205 (recommended).

Uppingham, Rutland. — Construction of the following works, for R.D.C.: (1) Wing sewerage and sewage disposal, the laying of approx. 1,800yd. of 6in. dia. sewers, together with the construction of a sewage disposal works; (2) Morcott sewerage and sewage disposal, the laying of approx. 3,500yd. of 6in. dia. sewers, together with the construction of a sewage disposal works. Pick, Everard, Keay and Gimson, consulting engineers, 6 Millstone Lane, Leicester—Crawshaw Robbins Co., Ltd., Scaldwell, Northampton—(1) £16,511, and (2) £26,904 (provisionally accepted, subject to Ministry approval); Stirton Partners, Ltd., £19,493 and £31,041; Stamford Construction, Ltd., £20,176 and £32,481; Hadsphaltic Construction Co., £20,569 and £30,880. Work to commence in three months.

Upton-upon-Severn, Worcs. — Castlemorton sewerage and sewage disposal scheme, for R.D.C., comprising the laying of approx. 1,037yd. of 6in. dia. and approx. 80yd. of 4in. dia. stoneware pipe, the construction of 14 precast concrete manholes, and the construction of a sewage disposal works, comprising grit chamber, upward flow sedimentation tank and collection chamber, filter bed, humus tank, sludge beds and other appurtenant works. H. E. Firth, engineer and surveyor: Hadsphaltic Construction Co., Ltd., 83 Prestbury Road, Cheltenham, £5,817 (subject to Ministry approval).

STREET LIGHTING

Cardiff.—Street lighting erection, contract four, for City Council: S. A. Inston and Co., Snows Yard, Foregate Street, Stafford, £3,140 (recommended).

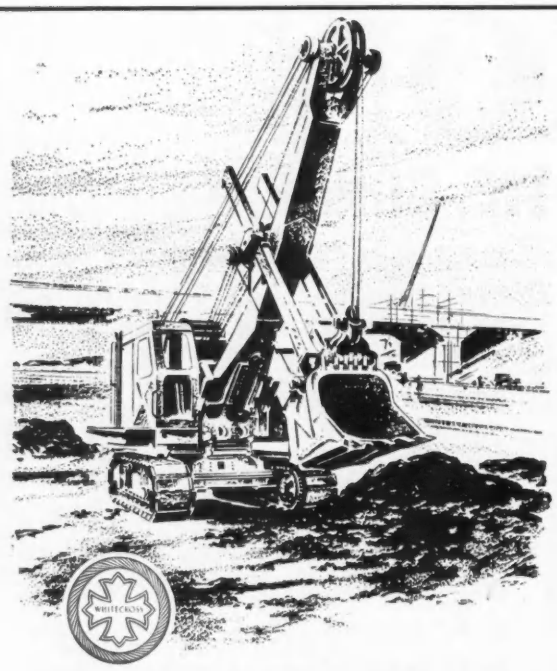
Manchester.—Erection of concrete street lighting columns in Parrs Wood Road North, Parrs Wood Road South and Yew Tree Road, for City Council: Walker Installations, Ltd., Liverpool (recommended).

Mansfield, Notts.—Erection, wiring and painting of 86 25ft. mounting height steel columns and 95 15ft. mounting height steel columns, and the removal and resiting of existing columns, for B.C.—S. A. Inston and Co., Snows Yard, Foregate Street, Stafford, £2,163 (recommended).

Morley, Yorks.—Supply and erection of street lighting equipment in Dewsbury Road and Church Street, Gildersome, for B.C.: Concrete Utilities, Ltd., 11 Albert Square, Manchester, 2 (recommended).

Oxford.—Street lighting, London-Fishguard trunk road A.40 (northern by-pass): supply and erection of steel columns complete with 280-W sodium lanterns, for City Council: Abacus Engineering, Ltd., Russel Chambers, Nottingham, £1,509.

Reading, Berks.—Installation of street lighting on stage one of the development of Bulmersche housing estate, for B.C.: Southern Electricity Board, 55 Vastern Road, Reading, £1,637 (recommended, subject to Ministry approval).



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Southport, Lancs.—Following works, for XVI, for B.C.: Supply of 11 S.O.50 and 932 S.S.51 lanterns and equipment — A.E.I. Lamp and Lighting Co., Ltd., Manchester, £4,589; supply of 11 steel columns—Stewarts and Lloyds, Ltd., Glasgow, £369; supply of 1,000 timeswitches—Sangamo Weston, Ltd., Liverpool, £3,870; erection and wiring of 11 steel and 530 concrete lamp columns—W. J. Furse and Co. (Manchester), Ltd., £2,370; supply of 530 prestressed concrete lamp columns—Stanton Ironworks Co., Ltd., Nottingham, £5,432; installing the necessary service cables to 943 lamps—Merseyside and North Wales Electricity Board, £12,716; reinstatement and painting work — Direct Labour, £4,768; erection of converted cast-iron lamp columns —Direct Labour, £804 (all recommended).

Tynemouth, Northumb. — Supply of sodium lanterns for year 1960-61, for B.C.: Abacus Engineering, Ltd., Russell Chambers, King Street, Nottingham.

GOVERNMENT CONTRACTS

Admiralty.—Particulars of contracts over £1,000 in value placed by Navy Works Department:

Somerset: construction of rest room and office—Arthur Sperring, Ltd., Bath.

Kent: construction of sub-station—Kemp Bros., Ltd., Sittingbourne.

Renfrewshire: re-sheeting of hangar—Apex Roofing Co., Glasgow.

Hampshire: demolition—Goodman Price, Ltd., London, W.C.2.

Kent: electrical installation—South-Eastern Electricity Board, Hove.

Air Ministry.—Contracts to the value of £500 or over for the week ended April 1, 1960:

Building work: Andover, Hants—A. J. Dunning and Son (Weyhill), Ltd., Weyhill, near Andover; Cottesmore,, Rutland——C. W. and A. L. Hughes, Ltd., 341 Humberstone Road, Leicester; Lakenheath, Suffolk—Walter Lawrence and Son, Ltd., Ventnor House, London Street, Swaffham, Norfolk; Bentley Priory, Middx.—Charles Brighthan and Son, Ltd., Ebury Road Works, Watford, Herts.; Mildenhall, Suffolk—T. Gill and Son (Norwich), Ltd., Hall Road, Norwich.

Regrading and resurfacing runway: Coltishall, Norfolk—Fitzpatrick and Son (Contractors), Ltd., 455 Old Ford Road, London, E.3.

Artificers' work: Welford, Herts. — F. R. Hipperson and Son, Ltd., Invicta House, Wantz Road, Dagenham, Essex; Heston Airport, Middx.—W. S. Try, Ltd., High Street, Cowley, Uxbridge, Middx.; Odiham, Hants—R. C. Radford, Redroof, Wings Road, Hale, Farnham, Surrey; Honington, Suffolk — Haymills (Contractors), Ltd., Hanger Green, Western Avenue, Ealing, W.5.

Air conditioning and low pressure hot water heating: Leconfield, Yorks.—Andrew Air Conditioning, Ltd., Woodbank Works, Stockport, Ches.

Provision of T buildings: Finningley, Yorks.—C. Moyser and Son, Construction House, Wheatley Hall Road, Doncaster, Yorks.

Metropolitan Police.—Recent contracts placed include:

Internal redecorations, Norton Close, Chingford—Fisher and Stringer (Builders), Ltd., £1,797.

Ministry of Finance, Northern Ireland.—Contracts exceeding £250 in value placed during the period March 21 to April 1, inclusive:

External and internal cleaning and painting: Head Post Office, Lisburn—T. McCarthy, 99 Warren Gardens, Lisburn.

Periodical and local maintenance works, Government Establishments in Northern Ireland: District I, Groups 1-5—(1) Samuel Graham and Son, Dromore Road, Hillsborough; (2) H. Girvan and Son, Ltd., Station Road, Larne; (3) R. McKeown and Sons, Irish Quarter, Carrickfergus; (4) B. Mairs Bros., 12 The Square, Ballyclare; (5) J. C. Ramsey, 101 Mount Merrion Park, Belfast, 6; District O, Groups 5, 7 and 9-12—(5) and (9) R. Wilson, Dromore Road, Irvinestown; (7) P. L. Cassidy and Sons, Derrygonnelly, Co. Fermanagh; (10-12) M. Armstrong and Sons, Tempo, Co. Fermanagh; District C, Group 4—H. Platt, 33 Taylor's Row, Coleraine.

Supply, etc., woodblock flooring: Stranmillis Training Centre—J. P. Corry and Co., Ltd., 7-43 Frederick Street, Belfast, 1.

Internal painting and cleaning: R.U.C. Station, Willowfield, Belfast, 6—Winters and Truesdale, 62 Holywood Road, Belfast, 4.

Electrical installation: New Office Building, Magherafelt—The Rotary Electric Co., Ltd., 58 Waring Street, Belfast, 1.

Periodical inspection and maintenance of electrically operated lifts: Government Establishments in Northern Ireland—I. McLean and Sons, 76 Grosvenor Road, Belfast, 12.

Internal and external painting: Ministry of Labour Local Office, Dungannon—Murphy Bros., 46 Loy Street, Cookstown.

Post Office.—Contracts for duct laying, etc., works to the value of £500 and over placed during the week ended April 2, 1960:

The Apex Contracting Co., Blanton, Bradford Road, Tingley, Wakefield, Yorks.; P. J. Byrnes, 168 St. Michaels Hill, Cotham, Bristol, 2; C.D.L. Construction Co., Ltd., Church Road, Egham, Surrey; Crawford and Cryan, Ltd., 124 Stafford Road, Wallington, Surrey; J. Crockard, 72 Parkgate Avenue, Belfast; F. J. Dunkerton, Ltd., Nowhurst Quarries, Broadbridge Heath, Horsham, Sussex; J. Galvin and Sons, 53 Parkside Way, North Harrow, Middx.; Edmund Gill, Ltd., 24 Ravenscroft Park, High Barnet, Herts.; Henry Hemmings, Ltd., 129 Brigstock Road, Thornton Heath, Surrey; The Norwest Construction Co., Ltd., Litherland, Liverpool, 21; P. J. Parrott and Co., Ltd., Main Street, Methley, Leeds, Yorks.; Robert Paterson and Sons, Ltd., Milton Street, Airdrie, Lanarks.; Harry Pointer (Norwich), Ltd., 5 Guardian Lane, Norwich; William Press and Sons, Ltd., 22 Queen Anne's Gate, Westminster, London, S.W.1; J. C. Shields, Ltd., Preston Road, Lytham, Lancs.; D. J. Sullivan (Bristol), Ltd., 16 Burlington Road, Redland, Bristol, 6; George Taylor (Wolverhampton), Ltd., The Viewlands, Cross Road, Albrighton, Wolverhampton, Staffs.; Alexander Thomson and Co. (London), Ltd., 45a Kensington High Street, London, W.8.

War Department.—Contracts placed for the week ended March 25, 1960:

Breconshire (Sennybridge): building—T. F. Howells, Ltd., Caerphilly.

Co. Durham (Barnard Castle): miscellaneous—G. Stephenson, Ltd., Bishop Auckland.

Cumberland (Longtown): building—Eden Construction Co., Ltd., Carlisle.

Essex (Colchester): painting and decorating—George Jones and Son (Contractors), Ltd., London, W.8.

Hampshire (Tidworth): roadwork—O. J. Elliott and Co., Ltd., Bristol.

London and Surrey: painting and decorating—Arnold Sharrocks, Ltd., London, S.W.11.

Oxfordshire (Bicester): glazing bars—Faulkner Greene and Co., Ltd., London, S.E.

Shropshire (Donnington): building—Bertram E. Pugh and Son, Pontesbury.

Stirlingshire (Stirling): building—Robert Beatson and Son, Alloa.

Surrey (Brookwood): building — Frank Batty and Smith, Ltd., London, W.2.

Wiltshire (Perham Down): roadwork—O. J. Elliott and Co., Ltd., Bristol.

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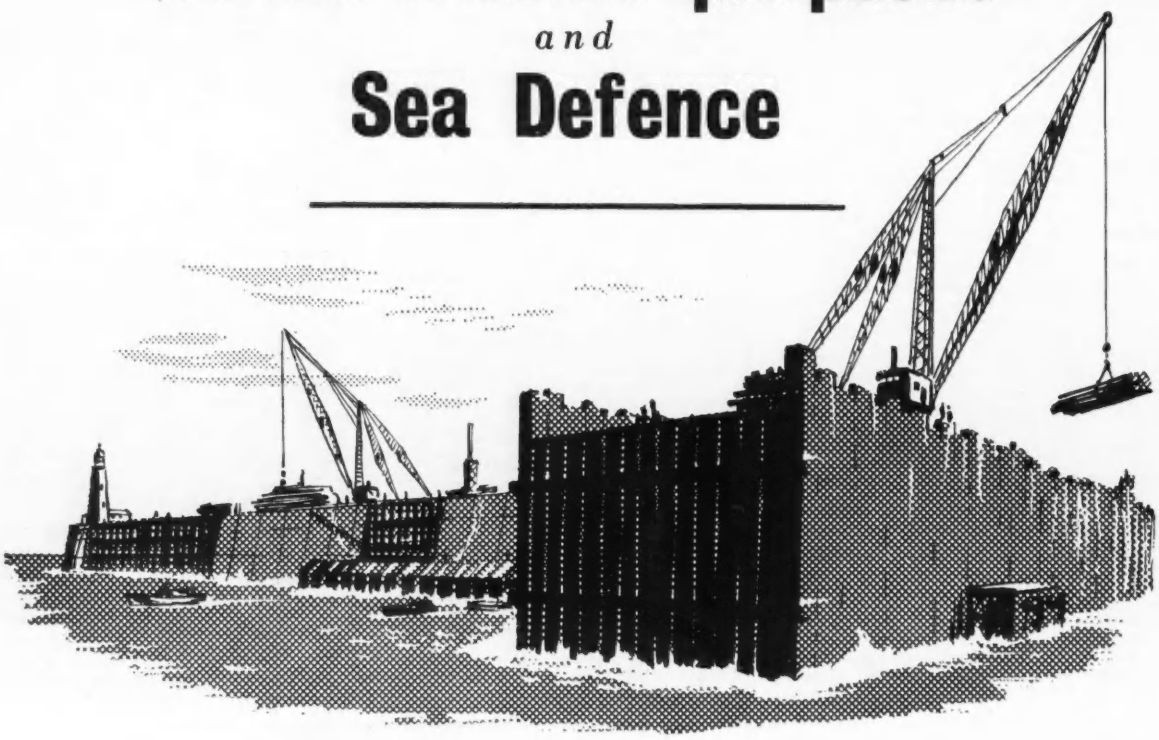

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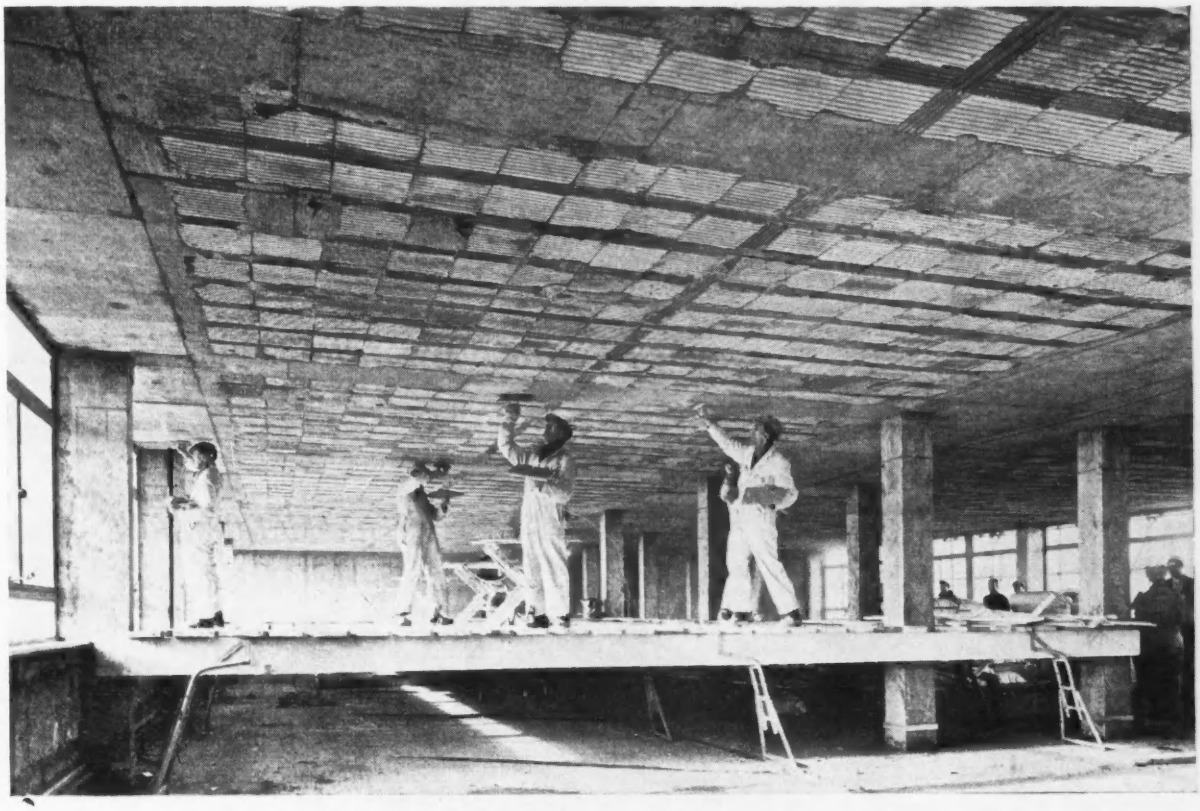

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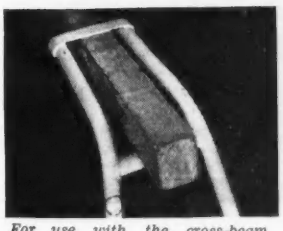
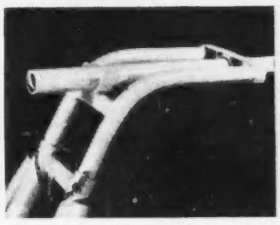
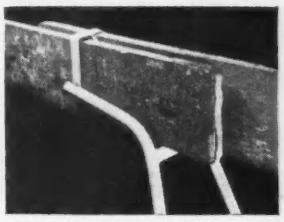
In the above photograph, telescopic type trestles are used with scaffolding boards; other types are also available.



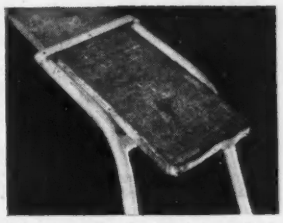
For use with the cross-beam 4" x 3" for heavy and concentrated loading. (Type A)



For use with tube cross beam. Ideal for Putlock application single leg. (Type B)



For use with scaffolding board for greater spans having girder strength. (Type C)



For use with horizontal scaffold boards for single barrow runs or cat walks. (Type D)

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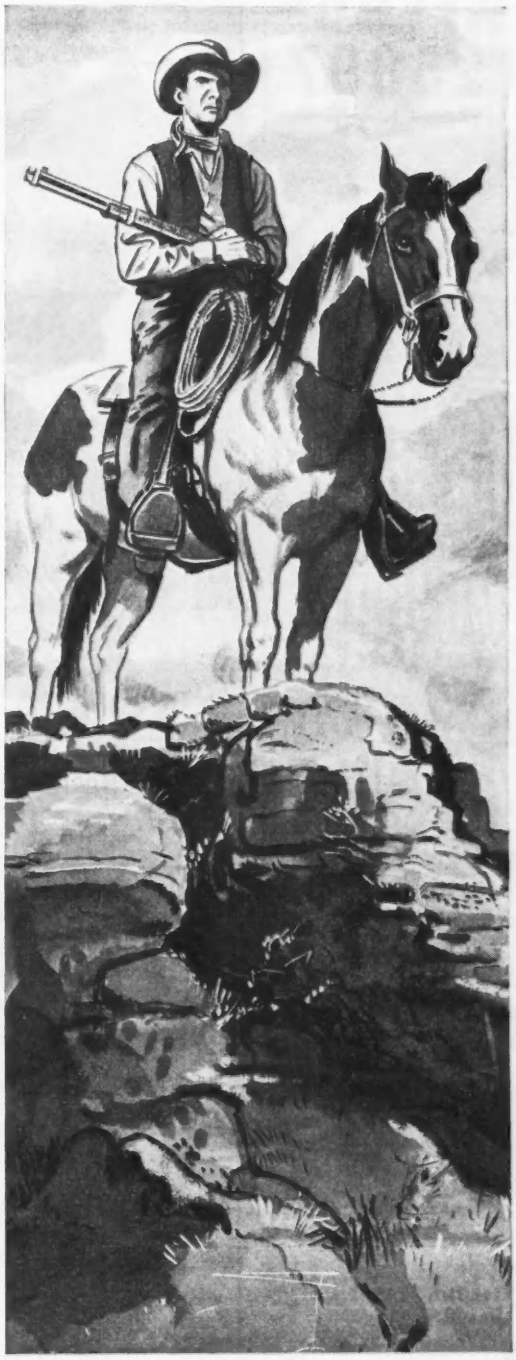

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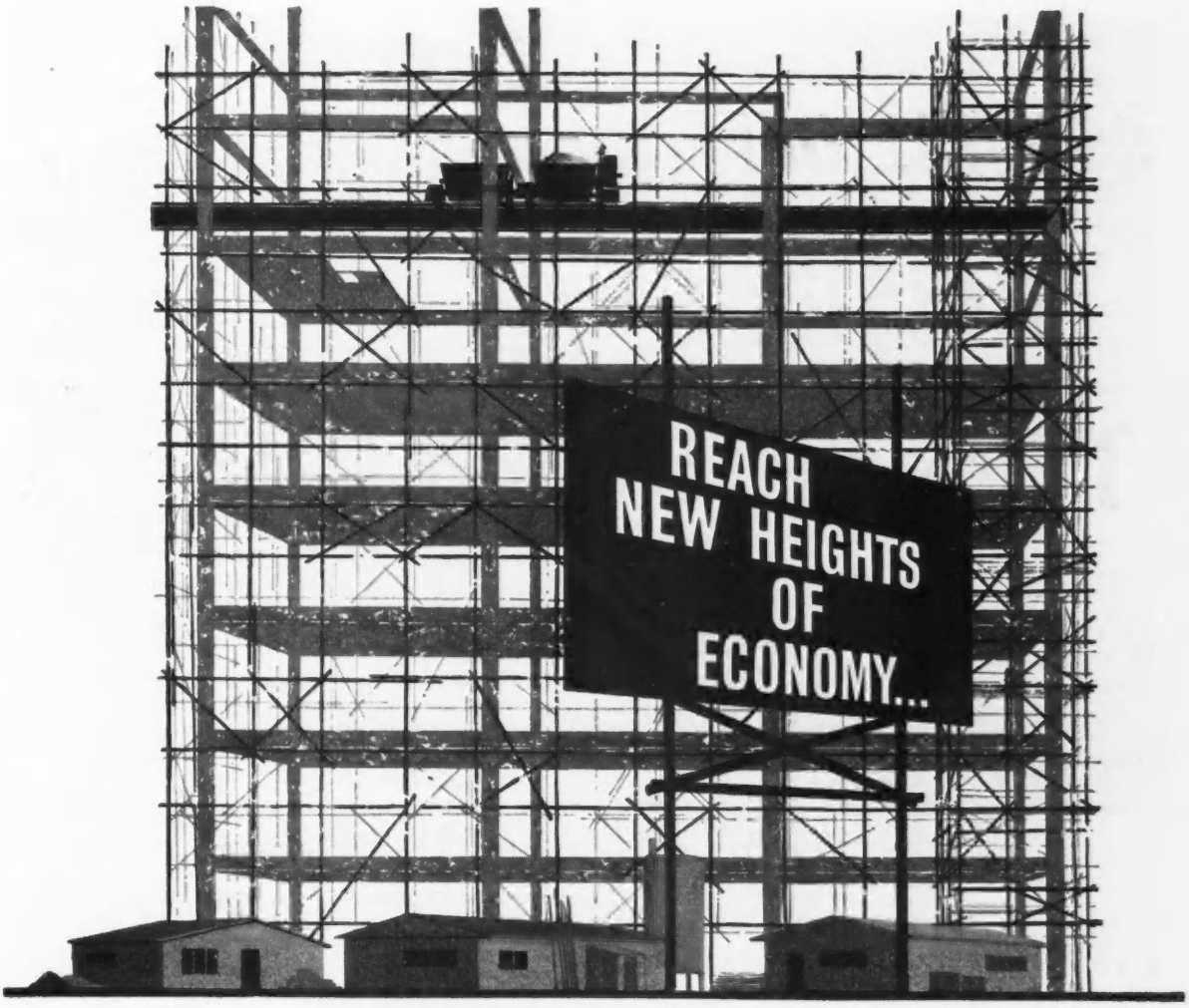

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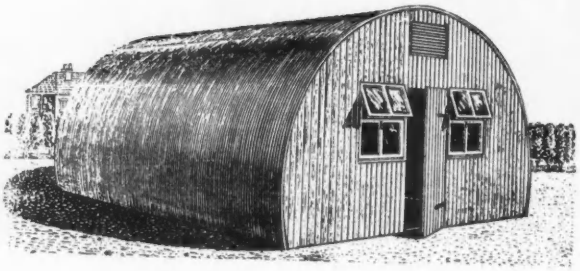

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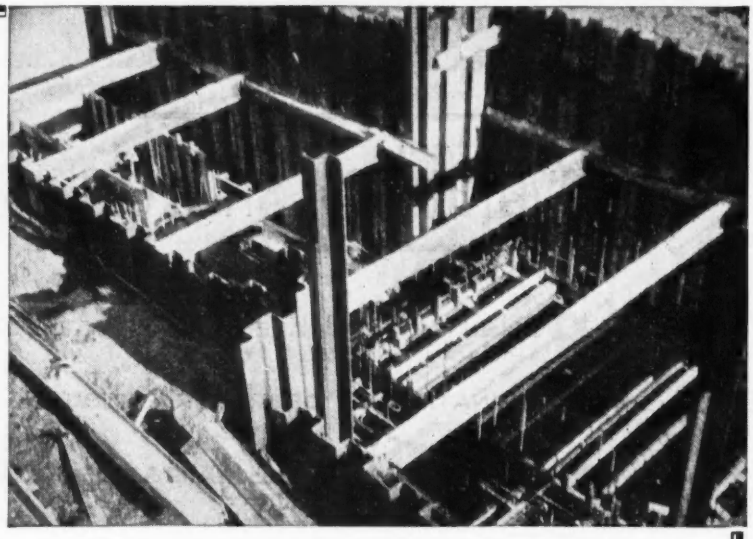

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(Continued from page 174)

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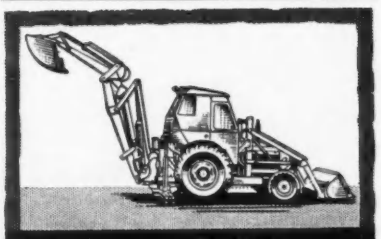

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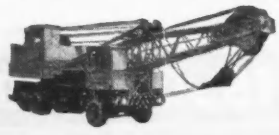

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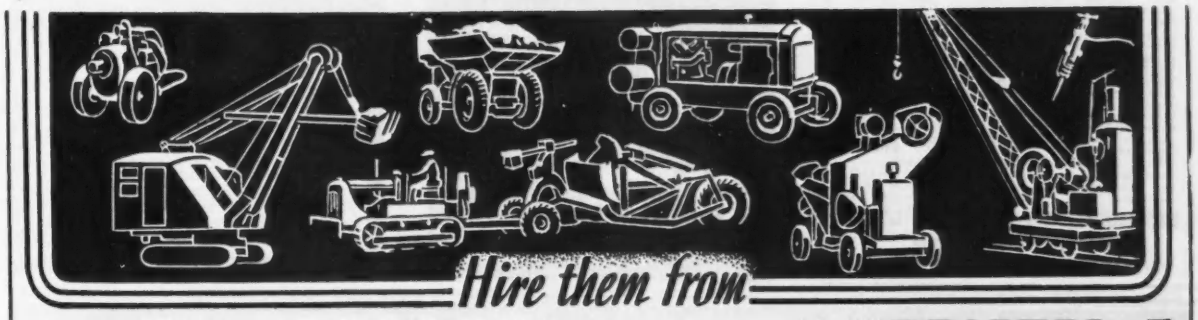
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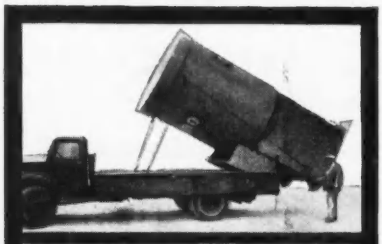

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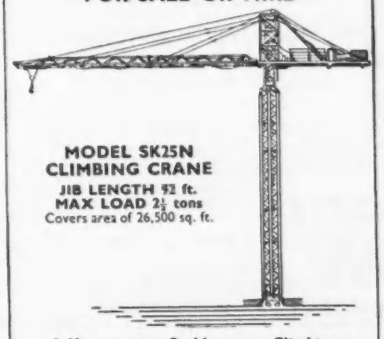
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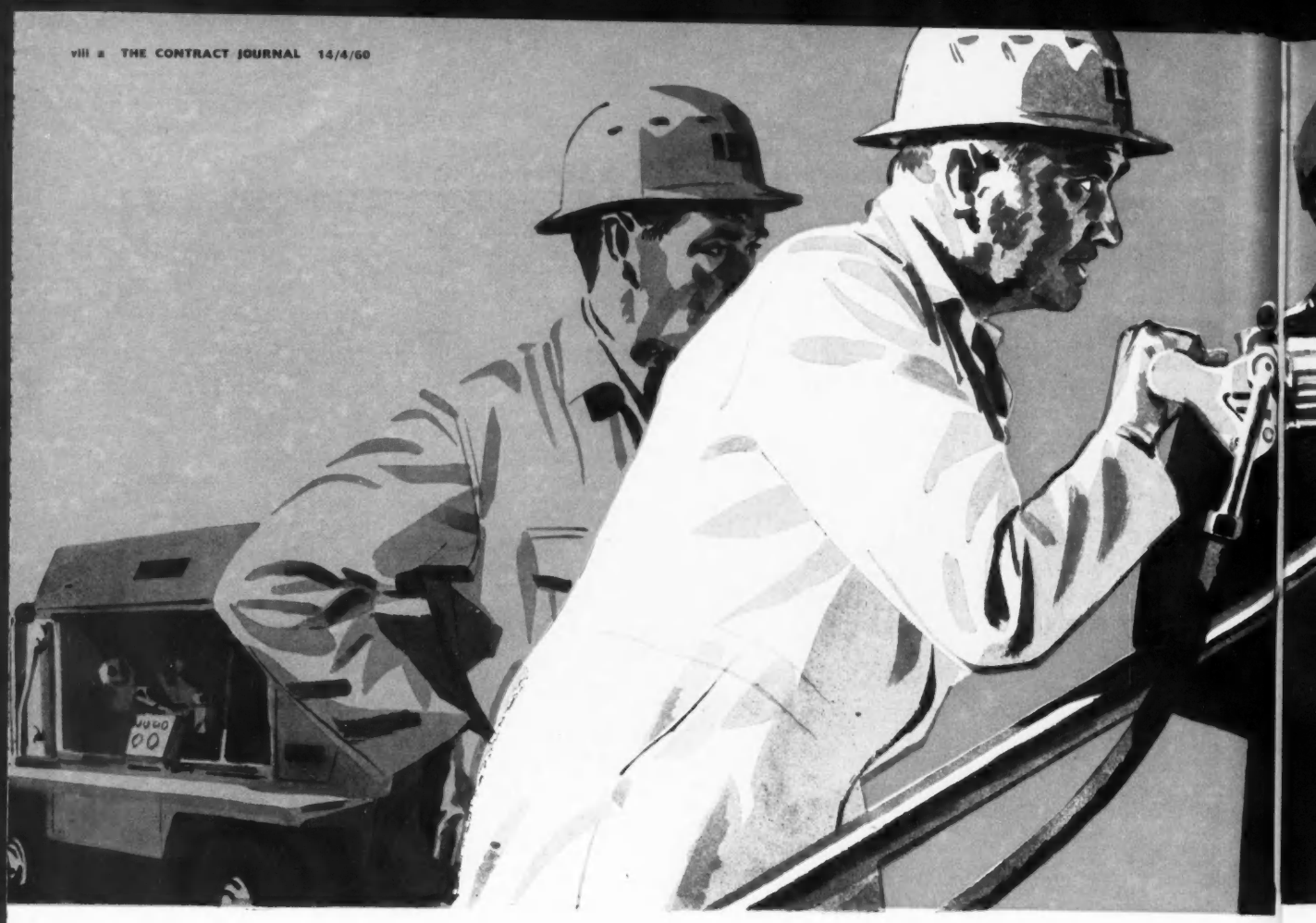

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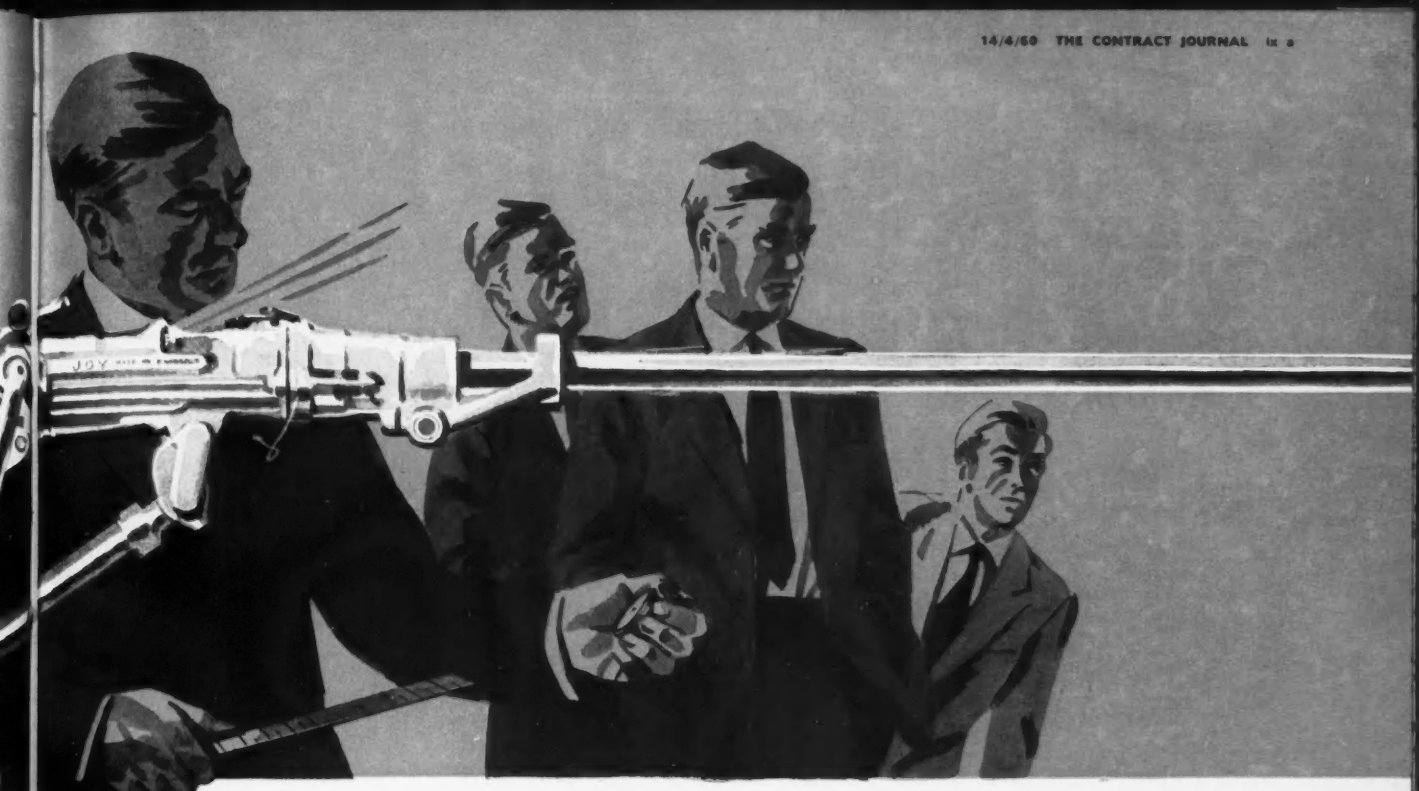

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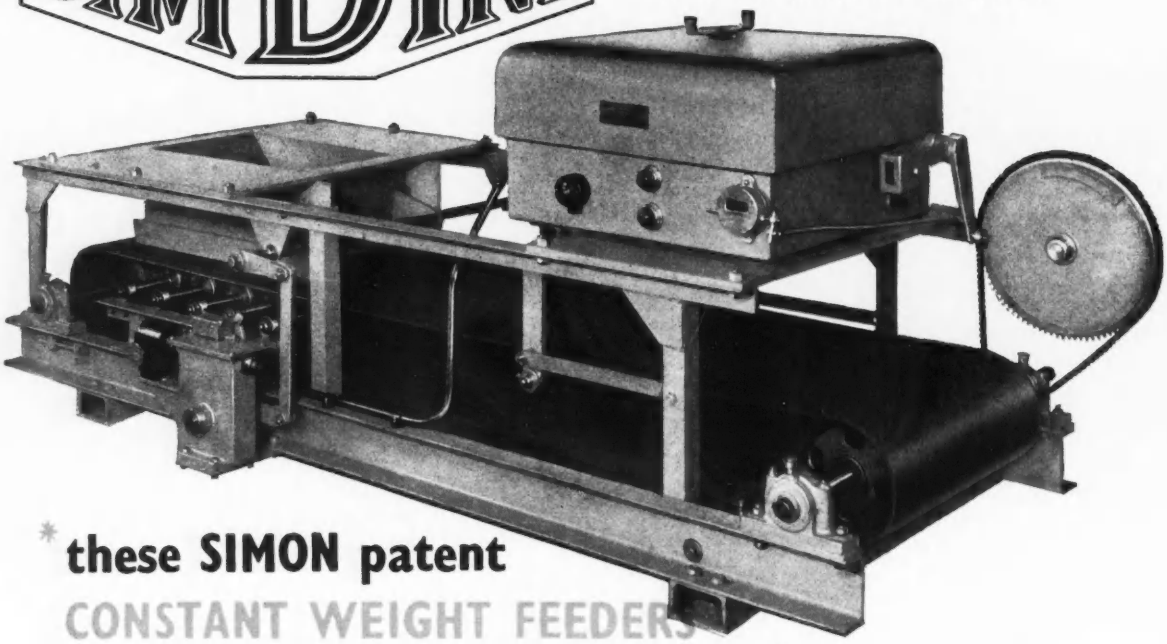

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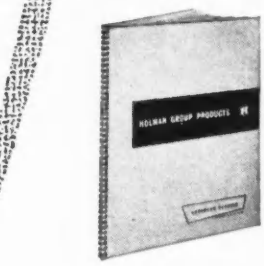

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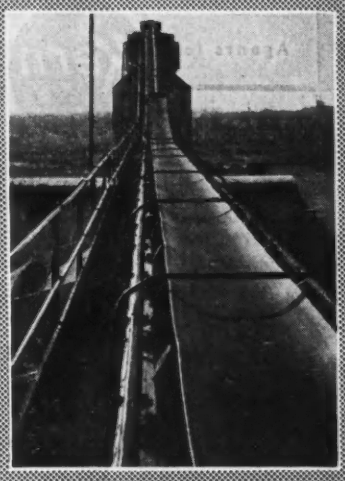

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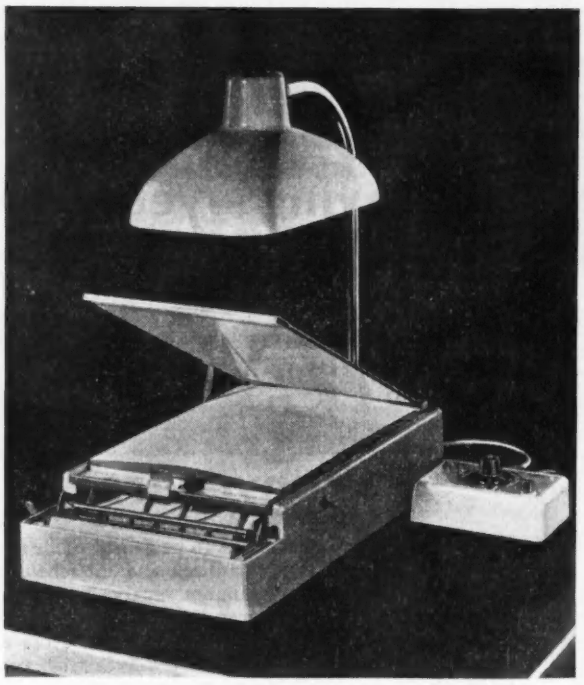

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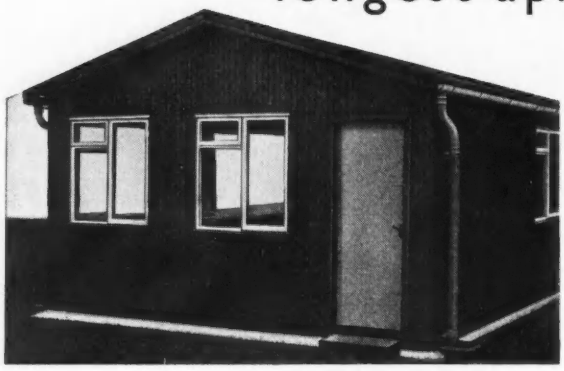

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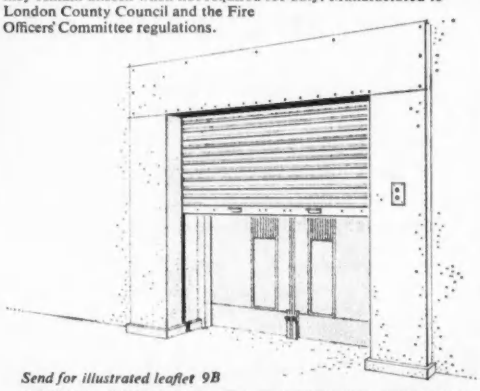

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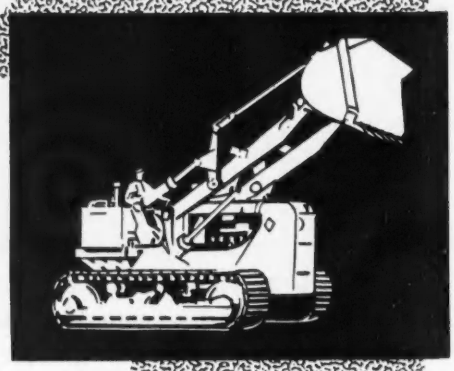

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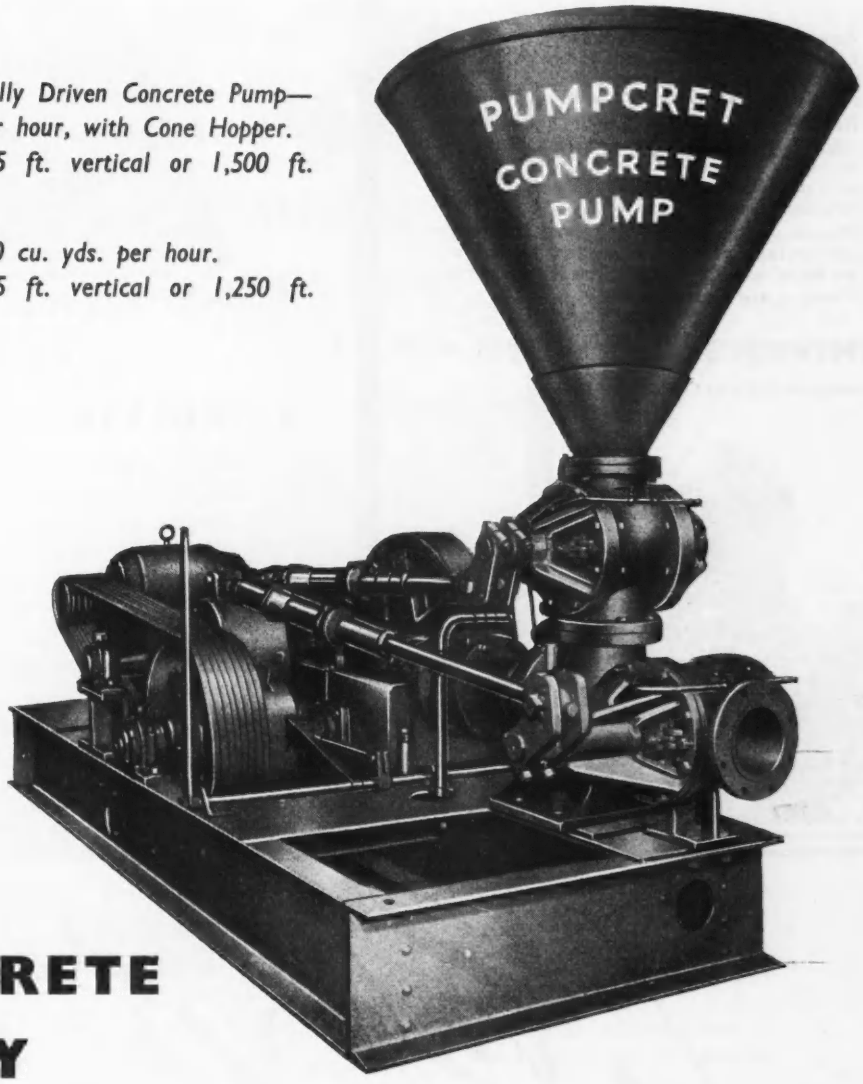

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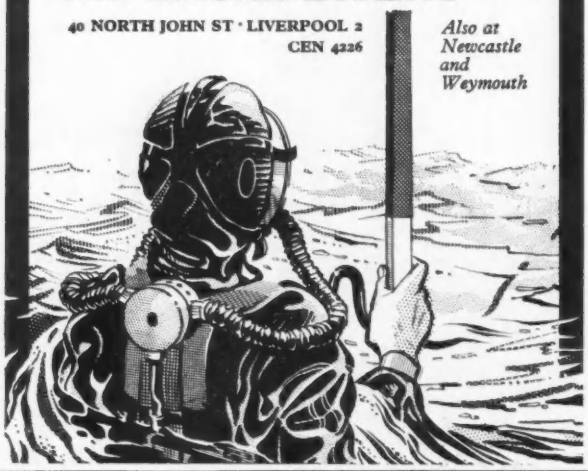

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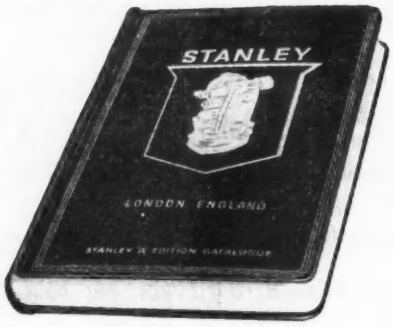

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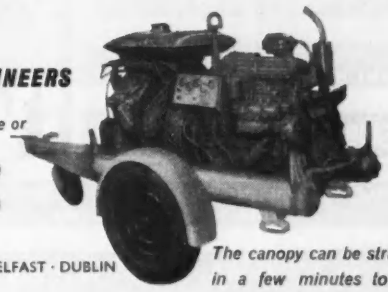

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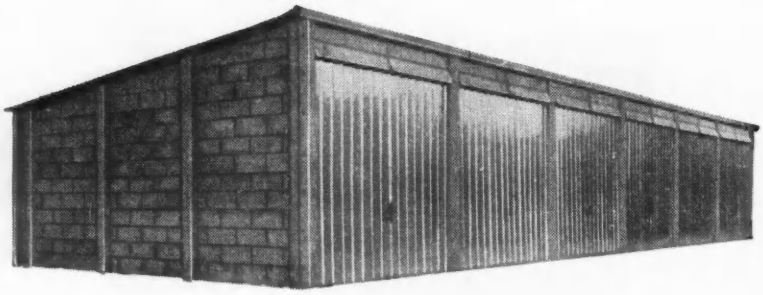

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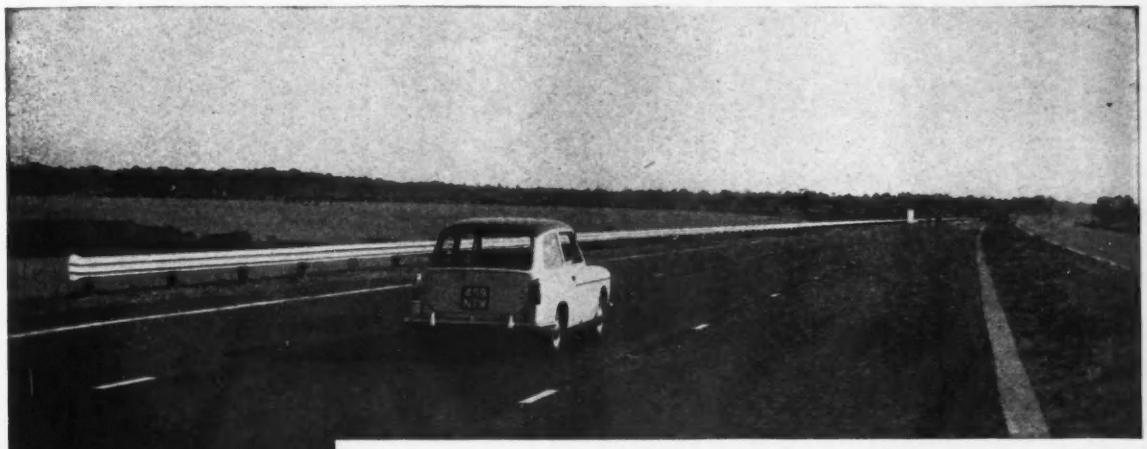

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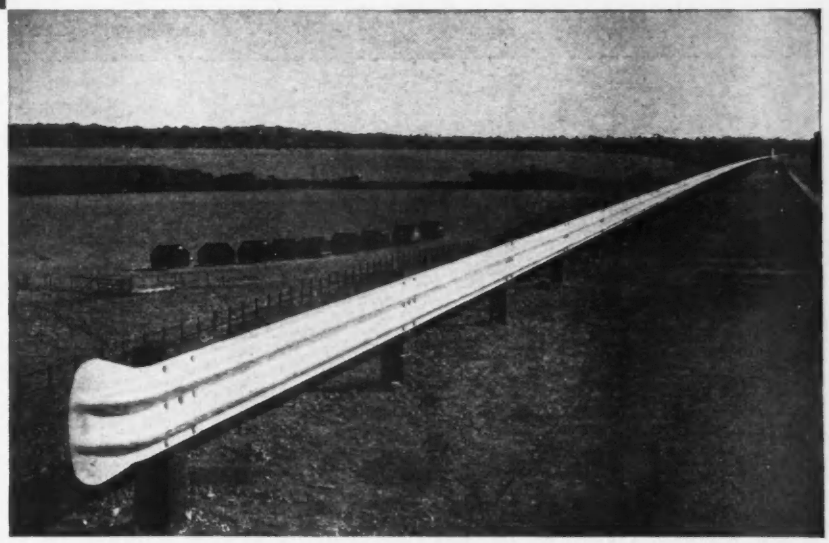

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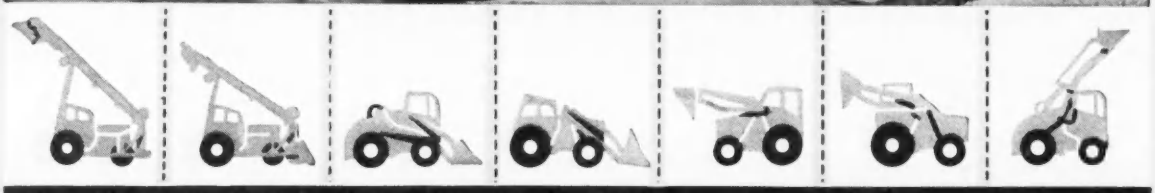

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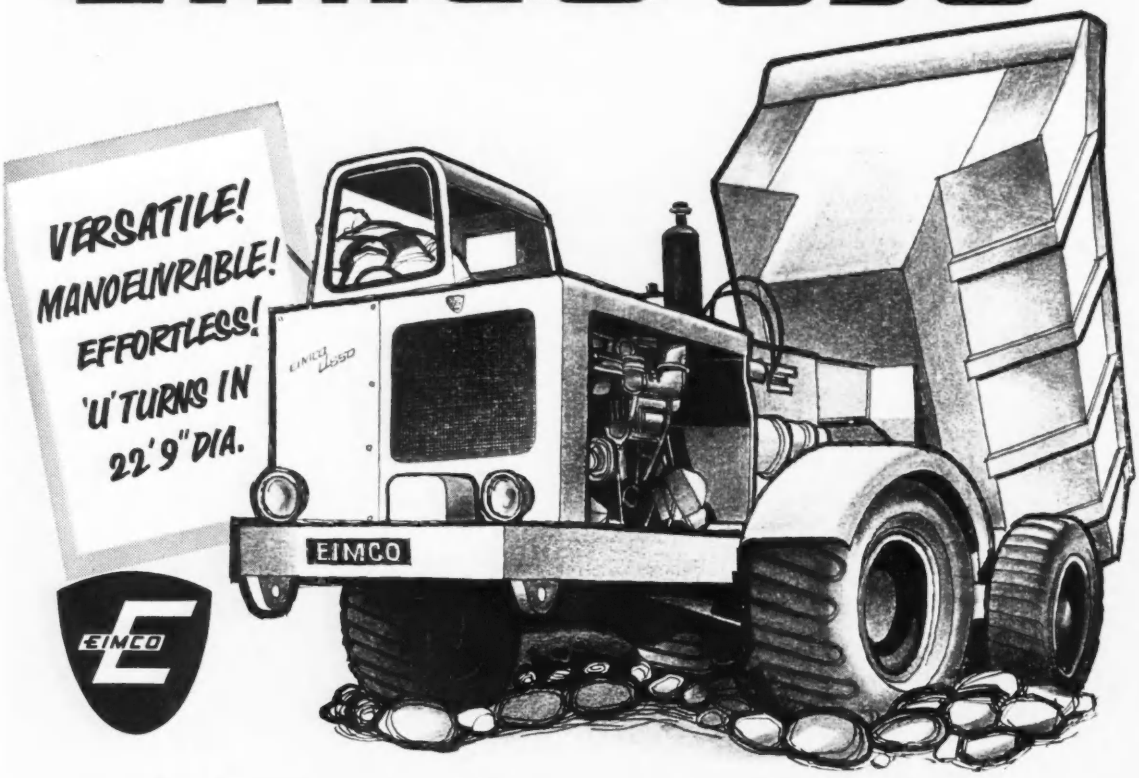

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all the time" *says Eddie Peters, Plant Manager of Twentieth Century*

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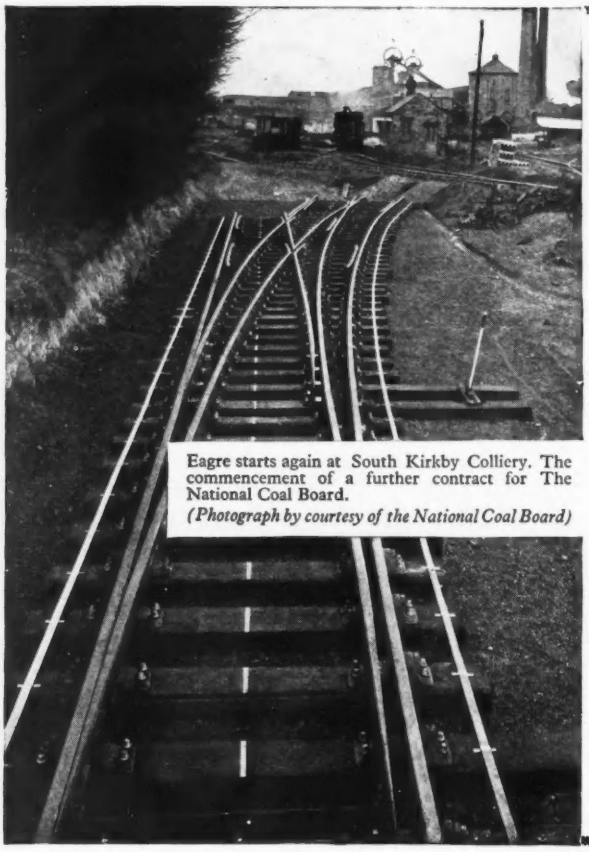

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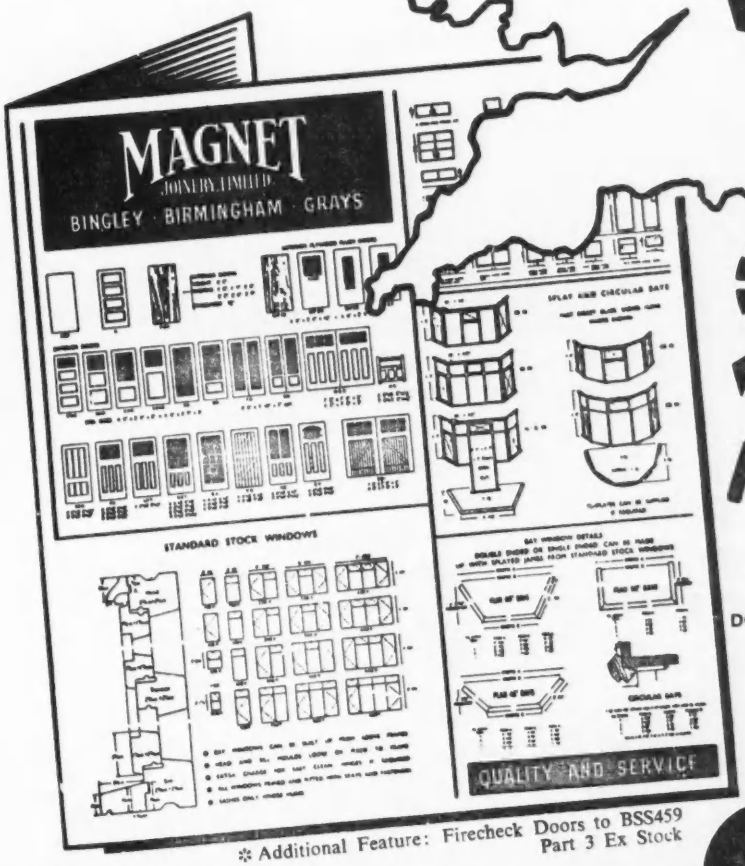

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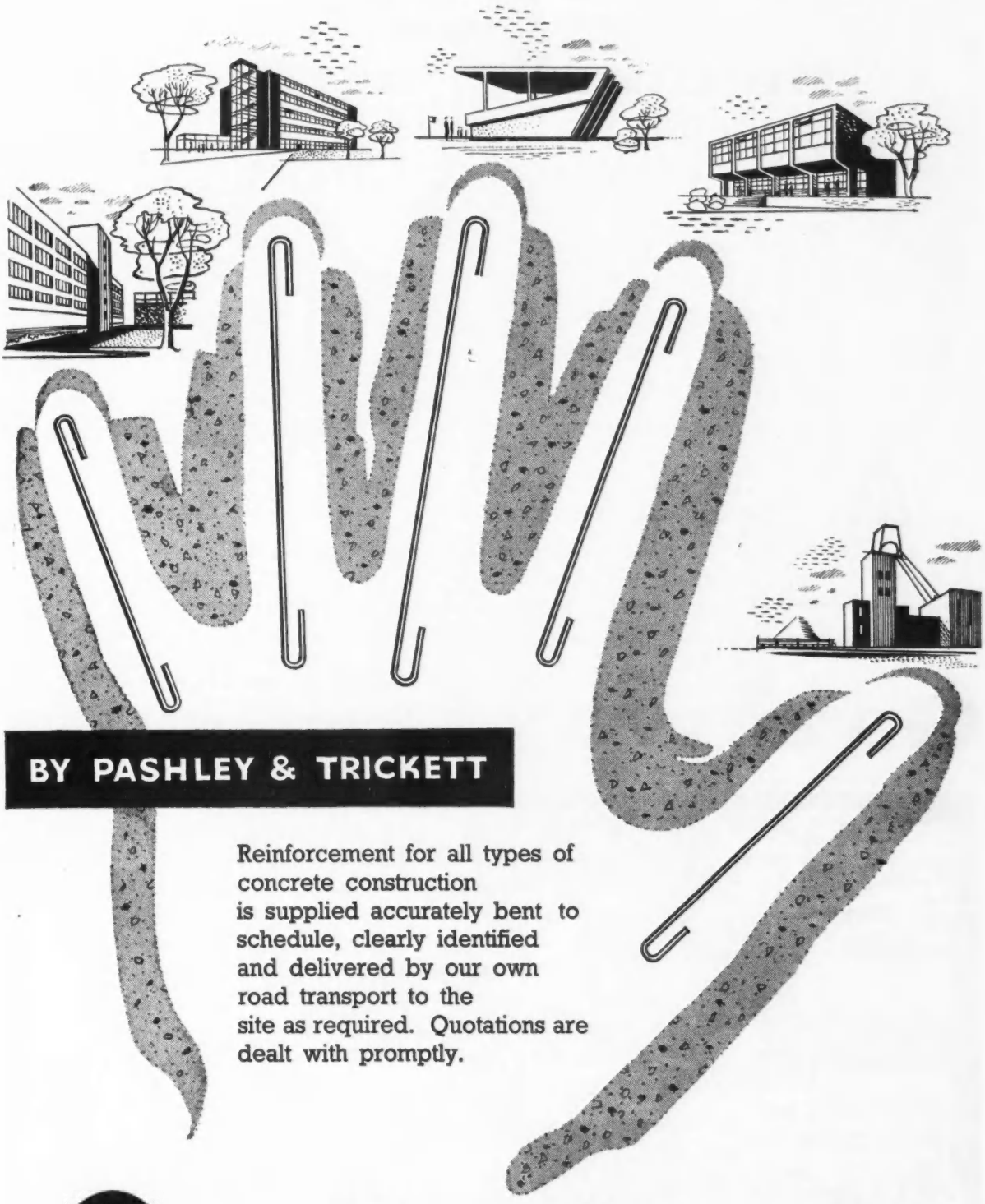

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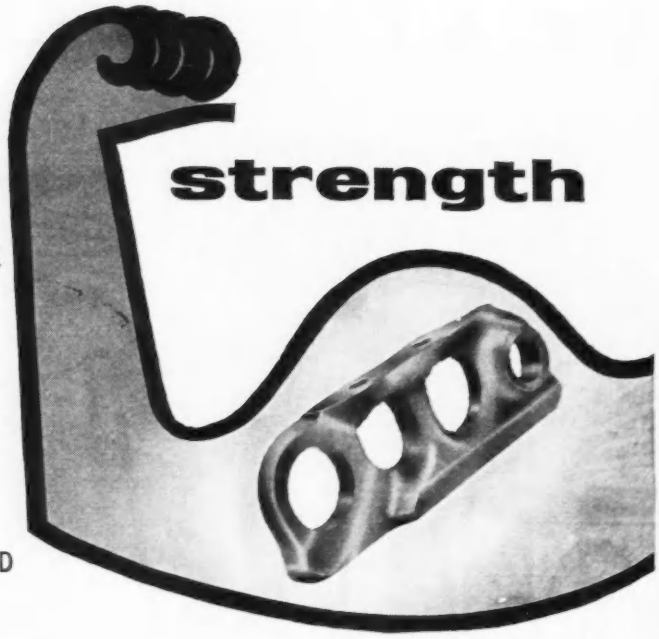

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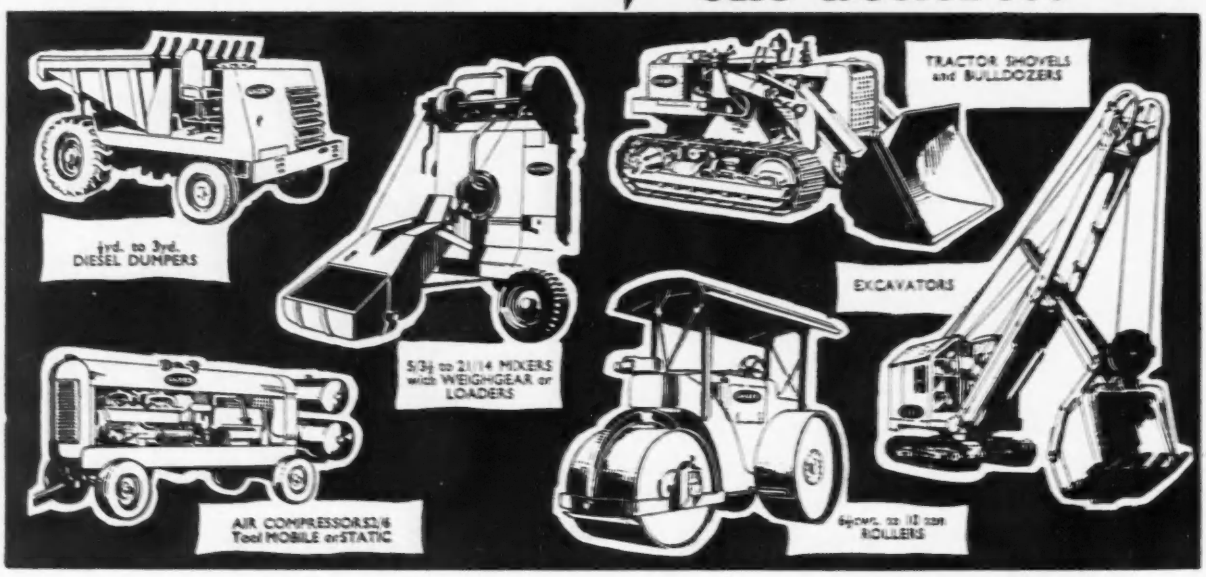

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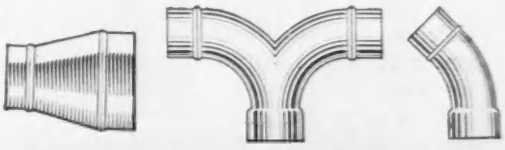

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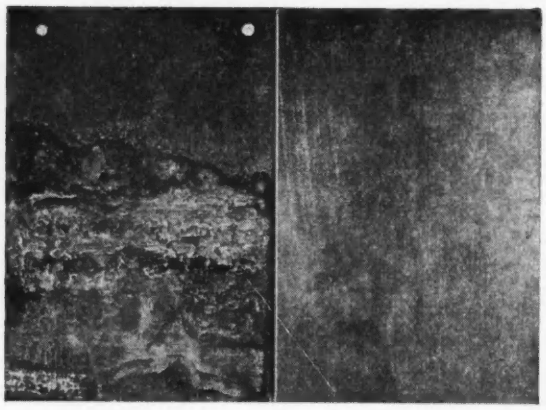

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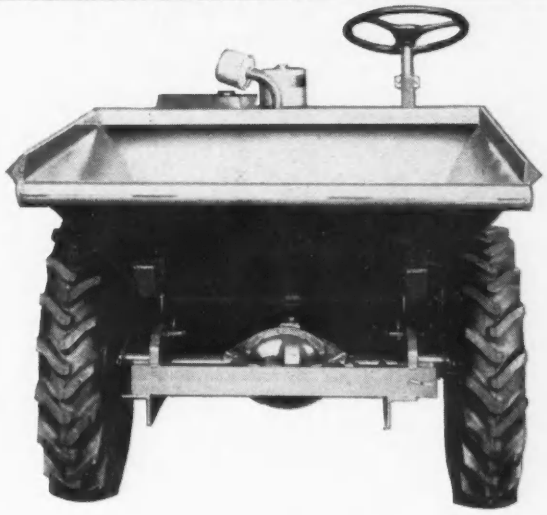

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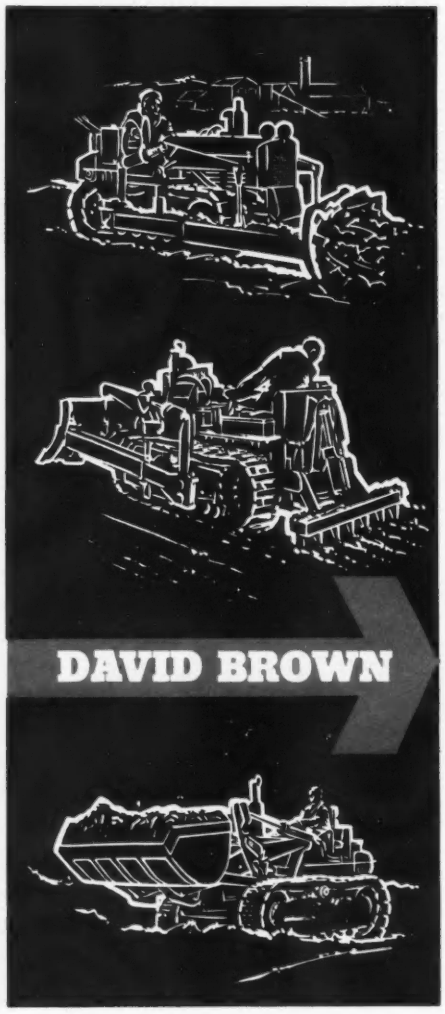

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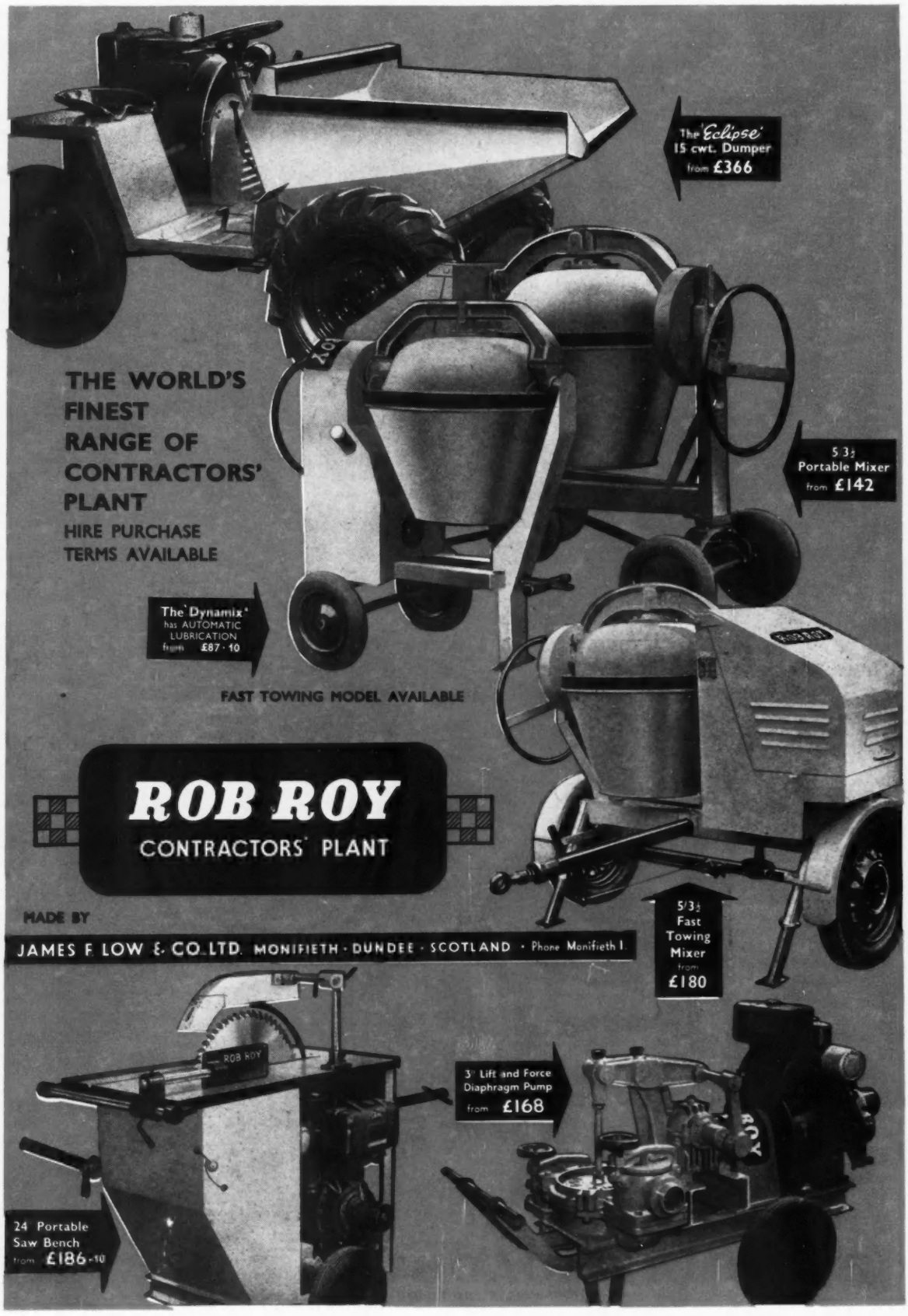

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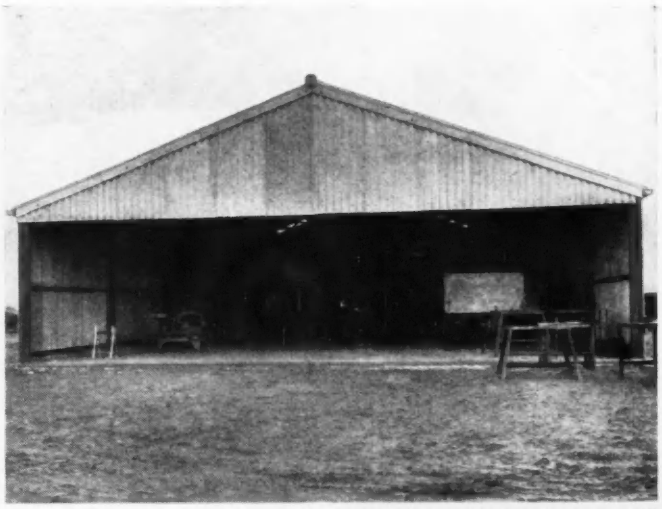

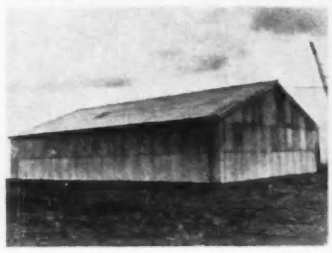

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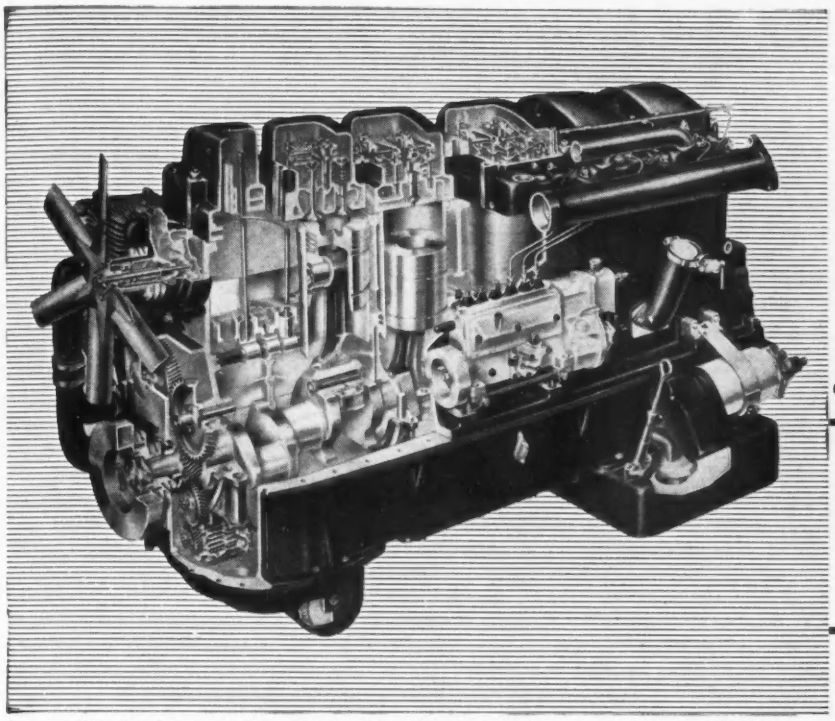

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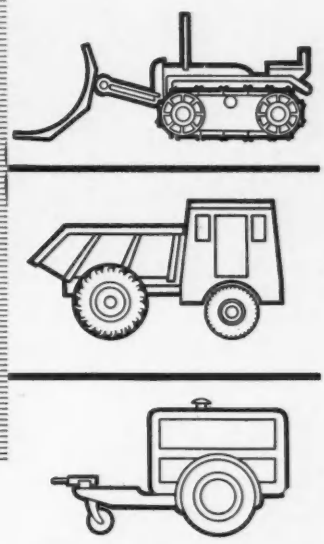
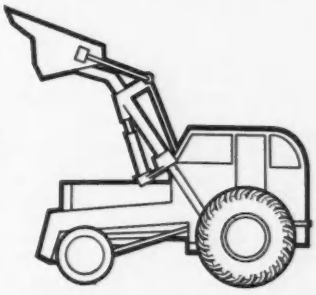


For earth moving equipment of every type there's now an A.E.C. diesel that's just right for the job. Normally aspirated, Southall-built industrial engines range from 50-275 b.h.p.: turbo-charged they go up to 360 b.h.p. and provide the most compact economical units it's possible to buy. They're designed to give high torque and sustained or intermittent rugged power wherever and whenever it's needed . . . for unfailing reliability in the severest conditions . . . for long trouble-free working life. And wherever they are operated they are backed by A.E.C.'s world wide service facilities. That's why when it's a question of power, the answer is . . . A.E.C.



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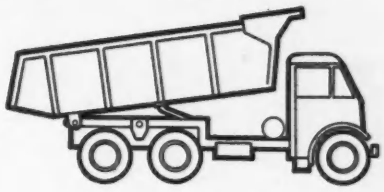

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A.E.C. WORKS · SOUTHALL · MIDDLESEX

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New Big Circle! New Visibility! New Easy Blade Adjustment!

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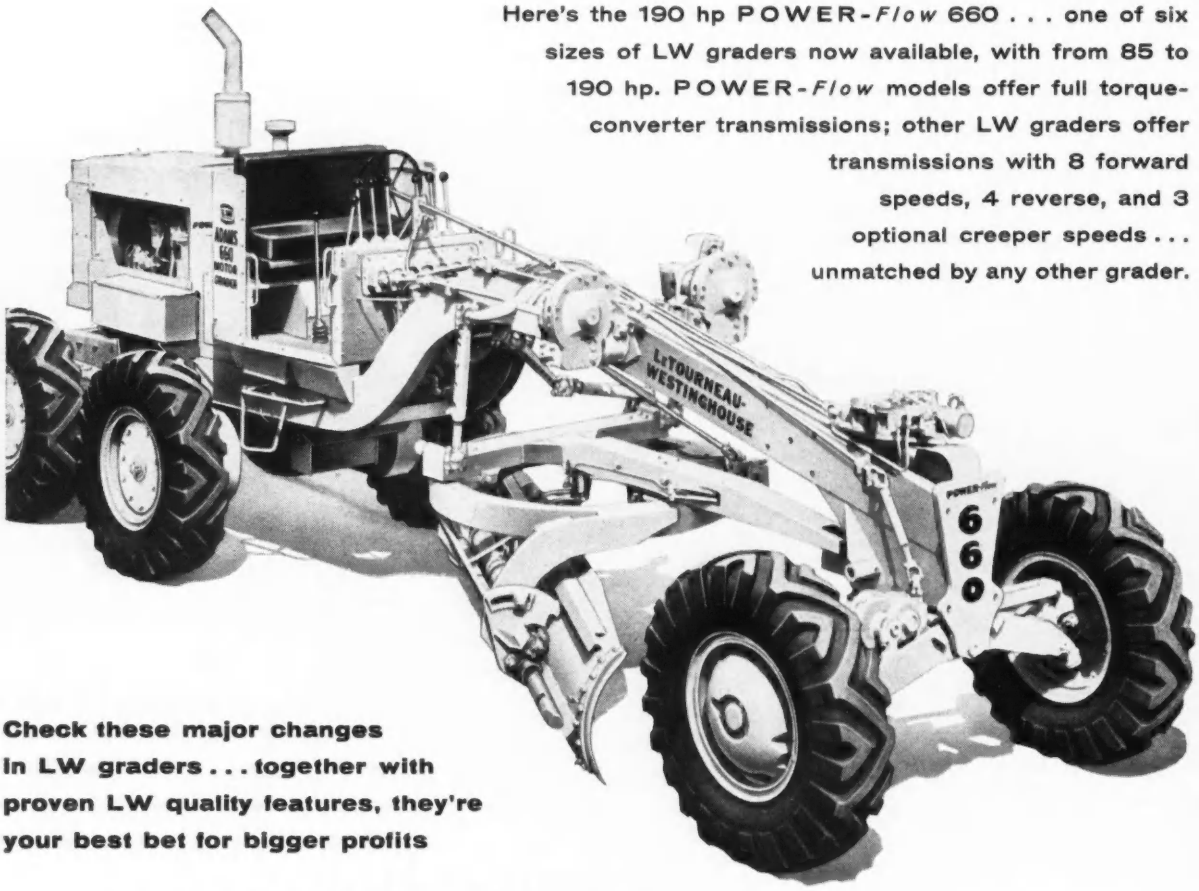

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Now, the world's finest graders are even better! New LeTourneau-Westinghouse Adams motor graders, now in production, offer you these important new features:

FULL-SWEEP VISIBILITY . . . sitting or standing, your operator can see *straight ahead* and *both ends of the blade*, where full *visibility counts!*

NEW BIG CIRCLE . . . 63 inches overall diameter, none bigger in the industry! Wide-spaced circle legs assure stable blade control.

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CONTRACTORS' GUIDE TO AGGREGATES

BEDFORDSHIRE

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: Norwood Hill 115.) (For dets., see Leics.)
DANGERFIELD, F. J., & CO., LTD., 261A Finchley Rd., London, N.W.3. (Tel.: HAMpstead 8044/8.) For all road aggregates, kerbs, setts. (See London.)
FERRERSAND AGGREGATES, LTD., Northampton Road Quarries, Rushden (2354/5). (See Northants.)
GRAVEL PRODUCTS (HUNTS.), LTD., St. Neots, Hunts. (Tel.: St. Neots 123.) Pits at Little Paxton, near St. Neots. (Tel.: St. Neots 308.) Deliveries in Beds., Hunts. and South Cambs.
ST. IVES SAND AND GRAVEL CO., LTD., 22 The Broadway, St. Ives, Hunts. (Tel.: St. Ives 2441/2/3/4.) (See Huntingdonshire for details.)
WELFORD GRAVELS, LTD., Head Office: Goldington, Bedford. (Tel.: 4587/8/9.) Largest producers of all grades of washed aggregates in Bedfordshire and Northamptonshire. Regular deliveries anywhere.

BERKSHIRE

AMEY'S AGGREGATES, LTD., Lower Wootton, Boars Hill, Oxford. (Tel.: Oxford 35421—10 lines.) Pits at Dry Sandford, near Abingdon, Sutton Courtenay, near Abingdon. (Tel.: Sutton Courtenay 275.) Theale, near Reading. (Tel.: Theale 358.) Dorchester, Oxon. (Tel.: Clifton Hampden 236.) Billing, Northampton (Tel.: Cogenhoe 464) for washed and graded aggregates to B.S.S.
BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: Norwood Hill 115.) (For dets., see Leics.)
BULL BROS., S. AND L., LTD., 126A High Street, Winchester. (Tel. 2264.) (See Hampshire.)
COFF, HARRY A., LTD., Buckhurst Hill, Cheapside, Ascot, Berks. (Tel.: Ascot 1026/7.) Sand, all grades of washed aggregates, hardcore, clinker, ashes and hoggin.
CURTIS, J., AND SONS, LTD., Botley Works, Oxford. (Tel. Oxford 41081/2/3.) Sand and all grades of washed aggregates. Pits at Radley, near Abingdon. (Tel.: Abingdon 441.)
DANGERFIELD, F. J., & CO., LTD., 261A Finchley Rd., London, N.W.3. (Tel.: HAMpstead 8044/8.) For all road aggregates, kerbs, setts. (See London.)
GRUNDON, S. (EWELME), LTD., Ewelme, Oxon. (Tel.: Ewelme 20.) London Office (Tel.: Uxbridge 4156.) All grades washed aggregates. Path hoggin, broken stone, building sand.
HAINES, H. (WITNEY), LTD., Oxford Road, Witney (Tel.: Witney 42.) All grades washed aggregates, hardcore, pitching and broken stone, Cotswold building and walling stone.
JANES AND CO., LTD., 2C Buckingham Avenue, Slough. Sand, aggregates, hardcore, ashes, bulldozing and bulk excavation. (Tel.: Slough 20361/2/3.)
LONDON BALLAST CO., LTD. (Tel.: Paddington 5064.) 55A Porchester Terrace North, Paddington, W.2.
POOLE (LECHLADE), LTD., Gravel Pit, Burford Road, Lechlade, Glos. (Tel.: Lechlade 219.)
RALPH OF BASINGSTOKE, LTD., 37 Kempshott Lane, Basingstoke, Hants. (Tel. 85.) Concrete aggregates, building sand, path gravel, hoggin, etc.
WRAYSBURY SAND AND GRAVEL CO., LTD., Station Road, Theale, Reading. (Tel.: Theale 373.)

BRECKNOCKSHIRE

NASH ROCKS STONE AND LIME CO., LTD., Presteigne, Radnor. (Tel.: Presteigne 352.) (See Herefordshire for details.)
SALOP SAND AND GRAVEL SUPPLY CO., Admaston, Wellington (Tel. 961), Salop.

BUCKINGHAMSHIRE

AMEY'S AGGREGATES, LTD., Lower Wootton, Boars Hill, Oxford. (Tel.: Oxford 35421—10 lines.) Pits at Dry Sandford, near Abingdon, Sutton Courtenay, near Abingdon. (Tel.: Sutton Courtenay 275.) Theale, near Reading. (Tel.: Theale 358.) Dorchester, Oxon. (Tel.: Clifton Hampden 236.) Billing, Northampton (Tel.: Cogenhoe 464) for washed and graded aggregates to B.S.S.
ASPHALTE CARPETS, LTD., 38 Buckingham Palace Road, London, S.W.1. (Tel.: Tate Gallery 4857 or Gerrards Cross 3496.) Manufacturers of all grades of gravel bitumen macadam, gravel asphalt and cold asphalt at Gerrards Cross.
BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: Norwood Hill 115.) (For dets., see Leics.)
BICESTER STONE CO., LTD., Stratton Audley, Bicester, Oxon. (Tel.: Stratton Audley 238.) Manufacturers and suppliers of all grades limestone tarmacadam, dry, pitching stone, hardcore, etc.
COFF, HARRY A., LTD., Buckhurst Hill, Cheapside, Ascot, Berks. (Tel. 1026/7.) (See Berkshire.)
DANGERFIELD, F. J., & CO., LTD., 261A Finchley Road, London, N.W.3. (Tel.: HAMpstead 8044/8.) For all road aggregates, kerbs, setts. (See London.)
DRINKWATER, W. W. (WILLESDEN), LTD., Rush Green, Denham, Bucks. (Tel. Denham 2241/2/3.)
GRUNDON, S. (EWELME), LTD., Ewelme, Oxon. (Tel.: Ewelme 20.) London Office (Tel.: Uxbridge 4156.) All grades washed aggregates. Path hoggin, broken stone, building sand.
HAINES, H. (WITNEY), LTD., Oxford Road, Witney. (Tel.: Witney 42.) All grades washed aggregates, hardcore, pitching and broken stone, Cotswold building and walling stone.
HALL AND CO., LTD., Brentford, Middlesex (Tel.: Isleworth 4455) and Coronation Road, High Wycombe (Tel.: 4360/1), and at Gerrards Cross. Pits at Wraysbury (Middx.) and Iver (Bucks.).
JANES AND CO., LTD., 2C Buckingham Avenue, Slough. Sand, aggregates, hardcore, ashes, bulldozing and bulk excavation. (Tel.: Slough 20361/2/3.)
LONDON BALLAST CO., LTD. (Tel.: Paddington 5064.) 55A Porchester Terrace North, Paddington, W.2.
MARLOW SAND AND GRAVEL CO., LTD., Westhorpe Pit, Little Marlow, Bucks (Tel.: Marlow 379.)
STUART MACEY, LTD., Gordon Road, High Wycombe. (Tel.: High Wycombe 2591/2.)
WELFORD GRAVELS, LTD., Head Office: Goldington, Bedford. (Tel. 4587/8/9.) (See Bedfordshire.)

CAMBRIDGESHIRE

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: Norwood Hill 115.) (For dets., see Leics.)
DANGERFIELD, F. J., & CO., LTD., 261A Finchley Rd., London, N.W.3. (Tel.: HAMpstead 8044/8.) For all road aggregates, kerbs, setts. (See London.)

CAMBRIDGESHIRE

DARBY'S SAND AND GRAVEL CO., LTD., The Brook, Sutton, Ely. (Tel.: Sutton 391/3. All grades of washed sand and gravel, ready-mixed concrete. Pits: Mepal and Chippenham, Cambs.
DICKERSON, M., LTD., Teversham Corner, Newmarket Road, Cambridge. All grades washed sand and gravel, reject stone, hoggin, breeze, clinker, "Terfite" crushed granite, foamed slag, concrete and brick hardcore, ready-mixed concrete—all grades. (Tel.: Cambridge 56973/4.)
FRECKENHAM GRAVEL CO., LTD., The Brook, Sutton, Ely. (Tel.: Sutton 391/3.) Washed sand and gravel.
MACLAREN BROS. (KENNETT), LTD., gravel, tarred and bituminous, gravel asphalt, washed sand and gravel, all to B.S. Specifications. Delivered to any site. Station Rd., Kennett, Cambs. (Tel.: Kentford 333/4.)
NORTH ROAD GRAVEL WORKS, LTD., The Brook, Sutton, Ely. (Tel.: Sutton 391/3.) All grades washed sand and gravel, ready-mixed concrete and spun-concrete pipes. Pit: Wimblington.
ST. IVES SAND AND GRAVEL CO., LTD., 22 The Broadway, St. Ives, Hunts. (Tel.: St. Ives 2441/2/3/4.) (See Huntingdonshire for details.)
WELFORD GRAVELS, LTD., Head Office: Goldington, Bedford. (Tel.: 4587/8/9.) (See Bedfordshire.)

CARDIGANSHIRE

NASH ROCKS STONE AND LIME CO., LTD., Presteigne, Radnor. (Tel.: Presteigne 352.) (See Herefordshire for details.)
SALOP SAND AND GRAVEL SUPPLY CO., Admaston, Wellington (Tel.: 961), Salop.

CHESHIRE

BUCKTON QUARRY, Broken stone, all grades. (Tel.: Mossley 123.) Or write Main Road, Oldham.
CASTLETON SAND AND GRAVEL QUARRIES, LTD., Pennant End Quarry, Whaley Bridge. (Tel. Whaley Bridge 139.) Washed sand and gravel.
CAWOOD, WHARTON AND CO., LTD., Pistyll Gwyn Quarry, Llanarmon, near Mold. (Tel.: Llanarmon-yn-Ial 27.) Crushed limestone and tarred macadam, all grades.
CHESHIRE AND NORTH WALES TARRED MACADAM CO., LTD., Llanarmon, near Mold. (Tel.: Llanarmon-yn-Ial 43.) Hard, broken limestone, dry and coated, to B.S.S. Inquiries to registered office—Market Chambers, Tower Square, Tunstall, Stoke-on-Trent. (Tel.: Stoke-on-Trent 88094.)
CROXDEN GRAVEL, LTD., Cheadle, Stoke-on-Trent, Staffs. (Tel.: Tean 393.) Manchester Office: Blackfriars 3766/7. Plant capacity, 2,000 tons per day.
DUNNING AND SON, LTD. (See Shropshire.)
ELLESMERE SAND AND GRAVEL CO., LTD., Wood Lane, Ellesmere, Salop. (Tel.: Ellesmere 167.) (For details see Shropshire.)
HARPER AND THOMAS, LTD., Bayston Hill Quarry, Shrewsbury. (See Shropshire for details.)
HILTON GRAVEL, LTD., Rice Street, Liverpool Road, Manchester, 3. (Tel.: Deansgate 5455 and 5456.) Quarries at Cheadle, Staffs. (Tel.: Tean 241.) And at Longton, Stoke-on-Trent. (Tel.: Longton 32196.)
HULLAND GRAVEL CO., LTD., Cheadle, Stoke-on-Trent. (Tel.: Cheadle 2323/4, 2119 and 2195.) Manchester Office: Hardy's Buildings, 3 Cateaton Street, Manchester, 3. (Tel.: Blackfriars 2277/8.)
PENMAENMAWR AND WELSH GRANITE CO., LTD., 7 Picton Road, Liverpool, 15. (Tel.: Sefton Park 7261.) All sizes and gradings of crushed granite aggregate from our Collingwood Dock (Liverpool) Depot. Any quantity per day; immediate delivery ex stock.
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PENTEWAN DOCK AND CONCRETE CO., LTD., Pentewan Works, near St. Austell. (Tel.: Mevagissey 3335/6.) Gwithian Works, near Hayle. Pure silica gravel and grit, concreting, building, plastering and asphalting sands, elvan and granite aggregates, all sizes.

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BROOMBYS, LTD., Sandside, Milnthorpe (Tel.: 325/2), Westmorland. (See Westmorland.)
ESK MANUFACTURING CO., LTD., Dalston Road, Carlisle, Cumberland. (Tel.: Carlisle 2-4941.) All grades washed, crushed gravel and concreting sand to B.S. Specification. Precast concrete products and partition blocks. Sand lime coloured facing and common bricks. Ex works or delivered.

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SALOP SAND AND GRAVEL SUPPLY CO., Admaston, Wellington (Tel.: 961), Salop.

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BALLIDON QUARRIES, LTD., Ballidon, near Ashbourne, Derbyshire. (Tel.: Parwich 201 and 202.) Clean and graded dry limestone to B.S.S., all sizes, coated limestone to B.S. 802 and 1621 and wet-mix; large output; reliable deliveries.
BURROWS BROTHERS (EXCAVATIONS), LTD., Market Place Chambers, West Bars, Chesterfield. (Tel.: Chesterfield 7130.) Red shale, black ashes, graded clinker, filter media, stone slag, sand, gravel and hoggin fillins. Bulk quantity supplies.
GRAVEL HILL SAND QUARRIES, LTD. Tel.: Ashby (Leics.) 79. (See Leicestershire for details).
HILTON GRAVEL, LTD., Hilton, Derby. (Tel.: Etwall 422.) Also at Mercaston. (Tel.: Brailsford 316.) And at Willington. (Tel.: Repton 3215.)
HOVERINGHAM GRAVEL CO., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)
HULLAND GRAVEL CO., LTD., Cheadle, Stoke-on-Trent. (Tel.: Cheadle 2323/4, 2119 and 2195.) Manchester Office: Hardy's Buildings, 3 Cateaton Street, Manchester, 3. (Tel.: Blackfriars 2277/8.)

DERBYSHIRE

SALISBURY AND WOOD, LTD., Matlock. (Tel. 272/273.) Limestone and granite, dry or coated gravel and sand; kerbs, slabs, blocks, posts, reconstructed and natural stone; lime and ground limestone. Lightweight aggregates, ashes, red shale.

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DANGERFIELD, F. J., AND CO., LTD., 261A Finchley Road, London, N.W.3. (Tel.: HAMpstead 8044/8.) For all road aggregates, kerbs, setts. (See London.)
DORSET LIMESTONES, LTD., Bumpers Lane, Easton, Portland, Dorset (Tel.: Portland 2207/8.) Tarred and bituminous macadam, foundation materials, limestone for all purposes and to all gradings. Portland stone aggregates and Portland capstone aggregates for reconstructed stone. By road and sea.
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HALL AND CO., LTD., 8 Commercial Road, Parkstone. (Tel.: 5379.)
MOREY'S (VERWOOD), LTD., Verwood, Wimborne, Dorset. (Tel.: Verwood 234.) Concrete aggregates, building sand, hoggin, path gravel.

DURHAM

BRAITHWAITE, A., AND CO., LTD., Knaresborough, Yorks. Quarry at Catterick. (Tel.: Old Catt. 157.) (For details see Yorkshire.)

ESSEX

ALRESFORD SAND AND BALLAST CO., LTD., Alresford Creek, near Colchester, Essex. (Tel.: Wivenhoe 341.) Pits at Alresford Creek, Brightlingsea, Stoke-by-Nayland, Bures and Holland. All grades of washed shingle, concreting sand and building sand. Road and water transport.
BAKER, F. AND E., LTD., 73 High Road, Rayleigh, Essex (Tel.: Rayleigh 1031/2.) Pits at Great Totham, Heybridge and West Tilbury. All grades of washed material supplied and delivered; also hardcore, ashes and bricks.
BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: Norwood Hill 115.) (For dets., see Leics.)
BENT-MARSHALL (LEYTON), LTD., 665-667 High Road, Leyton, E.10. (Tel.: Leytonstone 4047/8.) Sand, ballast, brick and concrete hardcore delivered all areas.
DANGERFIELD, F. J., & CO., LTD., 261A Finchley Rd., London, N.W.3. (Tel.: HAMpstead 8044/8.) For all road aggregates, kerbs, setts. (See London.)
FERRIS PITS, LTD., The Limes Garage, Fenceplece Road, Barkingside, Essex. (Tel.: Hainault 5271/2-3001/2.) Pits at Orsett, near Stanford-le-Hope, and Upminster. All grades of washed aggregates, plastering and building sands supplied and delivered, also hardcore and ashes.
HALL AND CO., LTD., Manor Road, Romford. (Tel.: Romford 42321.) Pits at Aveley, Boreham and Linford, near Grays. Gravel aggregates, concreting, plastering and building sand.
HUNNABLE, F. A., AND SON, LTD., Rayne Road, Braintree, Essex. (Tel.: Braintree 151 and 1351.) Graded washed stone, ¼in. to rejects; washed concreting sand and washed soft building sand. Classified sand for asphalt. Pits at Braintree, Bocking, Stanisy End, Hedingham and Alphamstone.
LEIGH BUILDING SUPPLY CO., LTD., Head Office: 956 London Road, Leigh-on-Sea, Essex. (Tel.: 78264—5 lines.) All grades washed materials building sand, hardcore, ashes, bricks, granite.
PETERS AND BARHAM, LTD., 309 South Street, Romford. (Tel.: Romford 44141—7 lines.) Washed and crushed gravel, all sizes; sand. Pits at Ashelnam, Chignall St. James, Dagenham, Great Waltham North Ockendon, Roxwell, West Thurrock.
READ, P. T., LTD., Foxlands Gravel Pit, Foxlands Crescent, Dagenham. (Tel.: Hainault 6111.) All sands, ballast and shingles supplied and delivered also ready-mixed concrete.
READ, P. T., LTD., Fairlop Airfield, Forest Road, Ilford. (Tel.: Hainault 6111/2/3.) High-grade sands, ballast and shingles supplied and delivered; also ready-mixed concrete.
ST. IVES SAND AND GRAVEL CO., LTD., 22 The Broadway, St. Ives, Hunts. (Tel.: St. Ives 2441/2/3/4.) (See Huntingdonshire for details.)
STANWAY CONTRACTS, LTD., Upper Edwards Hall, Eastwood, Southend-on-Sea. (Tel.: Eastwood 55161.) Sand and gravel pits at Rochford and Woodham Walter. Graded aggregates supplied or delivered.
WELFORD GRAVELS, LTD., Head Office: Goldington, Bedford. (Tel. 4587/8/9.) Washed and graded aggregates. Local Office and pits: Tillingham 287.
WIVENHOE SAND, STONE AND GRAVEL CO., LTD., Wivenhoe, near Colchester, Essex. (Tel., Wivenhoe 231.) High-quality washed aggregates of all grades.

GLOUCESTERSHIRE

AMEY'S AGGREGATES, LTD., Lower Wootton, Boars Hill, Oxford. (Tel.: Oxford 35421—10 lines.) Pits at Dry Sandford, near Abingdon, Sutton Courtenay, near Abingdon. (Tel.: Sutton Courtenay 275.) Theale, near Reading. (Tel.: Theale 358.) Dorchester, Oxon. (Tel.: Clifton Hampden 236.) Billing, Northampton (Tel.: Cogenhoe 464) for washed and graded aggregates to B.S.S.
BENGHY AND SONS, LTD., Longmoor, Kingsland, Leominster, Herefordshire. (Tel.: Kingsland 301/4.) (See details under Herefordshire.)
COKE, T. F. (CHELTENHAM), LTD., 267 Gloucester Road, Cheltenham. (Tel.: Cheltenham 4717/4874.) Sand, graded gravel aggregates, hardcore, limestone, chippings, tarred and bituminous limestone, concrete blocks, fence posts, etc., etc.
CROMHALL QUARRIES, LTD., Cromhall, Wottonunder-Edge, Glos. (Tel.: Falfield 346/7.) Concrete aggregates, pre-graded in large quantities. Tarmacadam, tarpaving, bituminous macadam and cold asphalt to B.S.S. for hand or machine laying.

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CONTRACTORS' GUIDE TO AGGREGATES

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GRIFFITHS, A., AND SONS, Churchdown, Gloucester. (Tel.: Churchdown 3135 and 2216) Pit, quarry and dredger owners. All grades and types aggregate materials.

HALL AND CO., LTD., Longmoor House, Ashton Vale Road, Bristol, 3. (Tel.: 63001.) Gravel aggregates, concreting, plastering and building sand.

POOLE (LECHLADE), LTD., Gravel Pit, Burford Road, Lechlade, Glos. (Tel.: Lechlade 219.)

TAYMAC, LTD., Wootton Bassett, Swindon. (Tel.: Wootton Bassett 391—5 lines.) (See Wiltshire.)

WHITECLIFF QUARRIES AND BRICKWORKS, LTD., Coleford, Glos. (Tel.: Coleford 3158/9.) Tarred and bituminous limestone macadams, asphalt, concrete aggregates, dolomitic media, engineering, facing and common bricks for all purposes. Delivery road or rail

HAMPSHIRE

AMEY'S AGGREGATES, LTD., Lower Wootton, Boars Hill, Oxford. (Tel.: Oxford 35421—10 lines.) Pits at Dry Sandford, near Abingdon, Sutton Courtenay, near Abingdon. (Tel.: Sutton Courtenay 275.) Theale, near Reading. (Tel.: Theale 358.) Dorchester, Oxon. (Tel.: Clifton Hampden 236.) Billing, Northampton (Tel.: Cogenhoe 464) for washed and graded aggregates to B.S.S.

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: Norwood Hill 115.) (For dets., see Leics.)

BULL BROS., S. AND L., LTD., 126A High Street, Winchester. (Tel. 2264.) Concreting aggregates (reconstituted, pit-mixed, weighbatched to meet any specification) also ballast, hoggin, path gravel and sand from own pits at Fawley, Lockerley, Ringwood, Romsey, Sway and Totton.

DANGERFIELD, F. J., & CO., LTD., 261A Finchley Rd., London, N.W.3. (Tel.: HAMpstead 8044/8.) For all road aggregates, kerbs, setts. (See London.)

GILSON, S. C., AND SONS, LTD., Holcombe, near Bath. (Tel.: Stratton-on-the-Fosse 243.)

HALL AND CO., LTD., Baltic Wharf, Marine Parade, Southampton (Tel.: Southampton 21234), and at Portsmouth. Pits at Ringwood, Highbridge and Totton. Gravel aggregate, concreting, plastering and building sand.

HASKINS, G., AND SONS, Queen Street, Emsworth. For washed sands and graded aggregates, path and road gravels, hoggin, clinker, ashes. (Tel.: Emsworth 2271.)

MOREYS (VERWOOD), LTD., Verwood, Wimborne, Dorset. (Tel.: Verwood 234.) Concrete aggregates, building sand, hoggin, path gravel

NEW MILTON SAND AND BALLAST CO., Lymington Road, New Milton, Hants. (Tel.: 37 and 566.) Guaranteed uncrushed, washed, screened and graded concrete aggregates. All sizes. Washed sharp and fine sands.

PRIVETT, W. G., AND SONS, LTD., Drayton Lane, Portsmouth. (Tel.: Cosham 70059.) Concrete aggregates, building sand, hoggin, ashes, washed and graded filter media, etc.

RALPH OF BASINGSTOKE, LTD., 37 Kempshott Lane, Basingstoke, Hants. (Tel. 85.) Concrete aggregates, building sand, path gravel, hoggin, etc.

WRAYSBURY SAND AND GRAVEL CO., LTD., Station Rd., Theale, Reading, Berks. (Tel.: Theale 373.)

WESSEX SAND AND GRAVEL CO., 126 Hillside Ave., Southampton. (Tel.: 56616.) Pits at Romsey and Fair Oak. Concrete aggregates, hoggin, building sand, etc.

HEREFORDSHIRE

SENGRY AND SONS, LTD., Longmoor, Kingsland, Leominster, Herefordshire. (Tel.: Kingsland 301/4.) Suppliers of all grades of crushed concrete aggregates, road metalling, pitching stone, hardcore and coated macadam.

HARPER AND THOMAS, LTD., Bayston Hill Quarry, Shrewsbury. (See Shropshire for details.)

NASH ROCKS STONE AND LIME CO., LTD., Presteigne, Radnor. (Tel.: Presteigne 352.) All grades of tarred and bituminous macadam, roadstone, chippings and concrete aggregates, etc.

OLD RADNOR TRADING CO., LTD., Kington. (Tel. 11.) Granite and limestone aggregates, coated macadam, concrete products.

SALOP SAND AND GRAVEL SUPPLY CO., Admaston, Wellington (Tel. 961), Salop.

WHITECLIFF QUARRIES AND BRICKWORKS, LTD., Coleford, Glos. (Tel. 3158/9.) (See Gloucestershire.)

HERTFORDSHIRE

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: Norwood Hill 115.) (For dets., see Leics.)

DANGERFIELD, F. J., AND CO., LTD., 261A Finchley Road, London, N.W.3. (Tel.: HAMpstead 8044/8.) For all road aggregates, kerbs, setts. (See London.)

EASTWOODS SALES, LTD., Eastwood House, City Road, E.C.1. (Tel.: Clerkenwell 2040.) Broxbourne pit. (Tel.: Hoddesdon 2456.) Producers and distributors of all grades of washed aggregates.

GABRIEL, C., LTD., Palmers Lane, Enfield, Middx. (Tel. HOWard 4351/2/3.) Washed aggregates and building sand. Pits at Hertford and Enfield.

HALL AND CO., LTD., Railway Yard, Orchard Road, Stevenage (Tel.: 775), and at Hatfield. Gravel aggregates, concreting, plastering and building sand.

ST. IVES SAND AND GRAVEL CO., LTD., 22 The Broadway, St. Ives, Hunts. (Tel.: St. Ives 2441/2/3/4.) (See Huntingdonshire for details.)

WINFIELD, HENRY, LTD., Pix Farm Lane, Hemel Hempstead. (Tel.: Berkhamsted 1208/9.) Pits at Watford, Leighton Buzzard, Heath and Reach, and Bedford.

HUNTINGDONSHIRE

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: Norwood Hill 115.) (For dets., see Leics.)

FERRERSAND AGGREGATES, LTD., Northampton Road Quarries, Rushden (2354/5). (See Northants.)

GRAVEL PRODUCTS (HUNTS.), LTD., St. Neots, Hunts. (Tel.: St. Neots 123.) Pits at Little Paxton, near St. Neots. (Tel.: St. Neots 308.) Deliveries in Beds., Hunts. and South Cambs.

NENE BARGE AND LIGHTER CO., LTD., Market Chambers, Peterborough (Tel. 5534/5), and Ship End Quarries, Wansford, near Peterborough (Tel.: Wansford 384/5). Roadstone, hardcore, broken stone, ballast, ashes silica clay and sand.

ST. IVES SAND AND GRAVEL CO., LTD., 22 The Broadway, St. Ives. (Tel.: St. Ives 2441/2/3/4.) Producers of all grades of washed sand and gravel. Ready mixed concrete. Precast concrete of every description.

WELFORD GRAVELS, LTD., Head Office: Goldington, Bedford. (Tel. 4587/8/9.) (See Bedfordshire.)

KENT

BRASTED SAND PITS, Brasted, Kent (Tel. 586.) London office: 10A Ellery Street, S.E.15. (Tel.: New Cross 3337.) Soft and plastering sands, lime and sand-mix dry, hardcore, S.H. bricks, ashes etc.

BROWN BROS. (SITTINGBOURNE), LTD., Chalkwell Road, Sittingbourne, Kent. (Tel.: Sittingbourne 330). Sand, ballast, shingle, hardcore, clinker, breeze blocks, etc.

CLUBB, J., LTD., Dartford, Kent. (Tel.: Dartford 25431.) Pits in North Kent, Medway area and Sevenoaks district. All washed and crushed gravel aggregates, concreting and building sand.

DIAMOND TREAD CO. (1938), LTD., Ditton Court Quarry, Larkfield, near Maidstone. (Tel.: West Malling 3444.) Quarryowners; tarmacadam, bituminous macadam and dry road stone manufacturers and suppliers. Head Office: 21-22 Old Bailey, London, E.C.4. (Tel.: City 7001—10 lines.)

DIAMOND TREAD CO. (CHART), LTD., Swan Lane Quarries, Little Chart, Ashford, Kent. Quarryowners; tarmacadam, bituminous macadam and dry roadstone suppliers. All inquiries to Area Office: Ditton Court Quarry, Larkfield, near Maidstone, Kent. (Tel.: W. Malling 3444.)

HALL AND CO., LTD., Canning Street, Maidstone (Tel.: Maidstone 51051), and at Folkestone and Hayes. Pits at Lunsford, near Larkfield. Gravel aggregates, concreting, plastering and building sand. Surecrete precision-mixed concrete.

HARRIS, M. P., AND CO., LTD., Station Road, Paddock Wood, Kent (Tel. 385.) (See Sussex.)

TILBURY CONTRACTING AND DREDGING CO., LTD., Postley, Maidstone. (Tel.: Maidstone 55401/2/3.) Suppliers of tarred, bituminous and dry Kentish ragstone, sea walling, asphalt fillers, Scotch granite and kerbing.

LANCASHIRE

BROOMBYS, LTD., Sandside, Milnthorpe (Tel. 3251/2). Westmorland. (See Westmorland.)

BUCKTON QUARRY. Broken stone, all grades. (Tel.: Mossley 123.) Or write Main Road, Oldham.

CASTLETON SAND AND GRAVEL QUARRIES, LTD., Trows Lane, Castleton, nr. Rochdale. (Tel.: Castleton 57100.) Lee Quarries, Bacup (Tel.: Bacup 287.) Washed pit sand, crushed washed stone aggregates; pitching stone.

CROFT GRANITE BRICK AND CONCRETE CO., LTD., West Bank, Widnes. (Tel.: 2656.) "Kubitized" granite aggregate to B.S.S., tarred and bituminous macadam, cold asphalt, "Croftmatte" Wet Mix, filter media, concrete products.

CROXDEN GRAVEL, LTD., Cheadle, Stoke-on-Trent, Staffs. (Tel.: Tean 393.) Manchester Office: Blackfriars 3766/7. Plant capacity, 2,000 tons per day

DUNNING AND SON, LTD. (See Shropshire.)

HARTLEY, JOHN W., LTD., Lundsfield Quarry, Carnforth, Lancs. (Tel.: Carnforth 100.) Large producers of highest quality washed sands, clean washed natural pebble and crushed gravel aggregates for all constructional purposes.

HILTON GRAVEL, LTD., Rice Street, Liverpool Road, Manchester, 3. (Tel.: Deansgate 5455 and 5456.) Quarries at Cheadle, Staffs. (Tel.: Tean 241.) And at Longton, Stoke-on-Trent. (Tel.: Longton 32196.)

HULLAND GRAVEL CO., LTD., Cheadle, Stoke-on-Trent. (Tel.: Cheadle 2323/4, 2119 and 2195.) Manchester Office: Hardy's Buildings, 3 Cateaton Street, Manchester, 3 (Tel.: Blackfriars 2277/8.)

PENMAENMAWR AND WELSH GRANITE CO., LTD., all sizes and gradings of crushed granite aggregate. Immediate delivery ex stock.
Liverpool and Preston Depots:
Office: 7 Picton Road, Liverpool, 15.
(Tel.: Sefton Park 7261.)
Manchester Depot:
Office: Cornbrook Road, Manchester, 15.
(Tel.: Trafford Park 3830.)

ROUND-O QUARRIES, LTD., Helsby Street, Warrington. (Tel.: 35451—4 lines.) Building and concrete sand and shale.

STERN HILL SAND AND GRAVEL CO., LTD., Almington Quarries, near Market Drayton, Staffs. (Tel.: Hales 261/2/3.) (See Staffordshire for details.)

TRENTHAM GRAVEL CO., LTD., Lordsley Quarries, Willoughbridge, near Market Drayton, Salop. (Tel.: Pipe Gate 304/5.) All sizes crushed or natural washed gravel. Twice-washed sharp concreting sand. Plastering sand. Plant capacity: 2,000 tons per day.

WELFORD GRAVELS, LTD., Head Office: Goldington, Bedford. (Tel.: 4587/8/9.) Local Office and pits, Chorley 3923.

WITHERS LIMESTONE, LTD., Black Lane Quarry, Carnforth. (Tel.: Carnforth 327.) Graded limestone aggregate to B.S.S., all sizes. Immediate delivery ex-stock.

X.L. GRANITE (INGLETON), LTD., Head Offices: Clapham, via Lancaster. (Tel.: Clapham 318/9.) Works Tel.: Ingleton 231. All sizes and gradings of Ingleton granite aggregate

LEICESTERSHIRE

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London Office—Norwood Hill 115.) Best Leicestershire grey granite, dry and coated gradings to any specification, cold asphalt and wet mix. Prompt road/rail delivery.

BRUNTINGTHORPE GRAVELS, LTD., Gilmorton, near Rugby. (Tel.: Lutterworth 46.) All sizes gravel aggregate, building and concrete sand to B.S.S., scientifically balanced ballast.

CLIFFE HILL GRANITE CO., LTD., Markfield, near Leicester. (Tel.: Markfield 561/2/3.) Granite aggregates to B.S.S. All sizes. Tarred and bituminous granite, concrete slabs and kerbs. Transit-mixed concrete.

CROFT GRANITE, BRICK AND CONCRETE CO., LTD., Croft, near Leicester. (Tel.: Narborough 2261—4 lines.) "Kubitized" granite aggregate to B.S.S., tarred and bituminous macadam, cold asphalt, "Croftmatite" Wet Mix, filter media, concrete products.

DUSTON STONE QUARRIES, LTD., New Duston, Northampton. (Tel.: Brixworth 278 and 298; Duston 505.) (See Northamptonshire.)

ENDERBY AND STONEY STANTON GRANITE CO., LTD., 21 New Walk, Leicester. (Tel.: 56682.) Quarries at Enderby. London Offices: 29 Dorset Square, N.W.1. (Tel.: Amb. 1141.)

GRAVEL HILL SAND QUARRIES, LTD., Prior Park, Ashby-de-la-Zouch. (Tel.: Ashby 79.) Works Hartshorne, Derbys. Yellow screened plastering and building sand, all to B.S.S.

HILTON GRAVEL, LTD., Hemington Fields, near Shardlow, Derby. (Tel.: Shardlow 266.)

HOVERINGHAM GRAVEL CO., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

MOUNTSORREL GRANITE CO., LTD., 21 New Walk, Leicester. (Tel.: 56682.) Quarries at Mountsorrel, near Loughborough. ¼in. pink granite a speciality. London Office: 29 Dorset Sq., N.W.1. (Amb. 1141.)

LEICESTERSHIRE

WANLIP GRAVELS, LTD., Wanlip Road, Syston, Leicester. Any size or grading, scientifically balanced ballast. All to B.S.S. (Tel.: Syston 2327 and 2797.)

WELFORD GRAVELS, LTD., Head Office: Goldington, Bedford. (Tel.: 4587/8/9.) (See Northamptonshire.)

WREAKE VALLEY GRAVELS CO., LTD., Melton Mowbray. (Tel.: Pits—Rotherby 205 or head office Melton 2488.) All grades washed aggregates and sand.

LINCOLNSHIRE

BLADES AND WAITE, Waddington, near Lincoln. (Tel.: Waddington 365.) For sale any quantity of ash, stone, sand and gravel.

BULLIMORES SAND AND GRAVEL, LTD., South Witham, Grantham. (Tel.: Thistleton 223.) Building sand, hardcore, ashes. All grades washed sand and aggregates.

BURROWS BROTHERS (EXCAVATIONS), LTD., Market Place Chambers, West Bars, Chesterfield. (Tel. 7130.) (For details, see Derbyshire.)

CONINGSBY SUPPLY CO., LTD., Registered Office: The Broadway, Woodhall Spa, Lincs. (Tel.: Woodhall Spa 3150.) Screened limestone, hardcore, pitching, filling, flint, hoggin. Ex-quarries or delivered.

DOW-MAC (PRODUCTS), LTD., Tallington, Stamford. All grades of washed sand and gravel. (Tel.: Market Deeping 2301.)

EAST MIDLANDS BUILDERS' SUPPLY CO., 21 Castledyke West, Barton-on-Humber, Lincs. (Tel.: Barton 2189.) All grades washed sand and gravel, roadstone, hardcore, washed silica sand.

GIBBONS, F. B., AND SONS, LTD., Registered Office: Welby House, Market Deeping, near Peterborough. (Tel.: Market Deeping 3321/2383.) Pits at Langtoft, near Peterborough. (Tel.: Market Deeping 2210.) All grades washed sand and aggregates.

HARTSHOLME GRAVEL AND SAND CO., LTD., Hartsholme Wood, Doddington Road, Lincoln. Sole selling agents: Hartsholme Sales, Ltd., 17 West Parade, Lincoln. (Tel.: Lincoln 23391.)

HOVERINGHAM GRAVEL CO., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

PETERBOROUGH QUARRIES, LTD., Sandylands, Maxey, Peterborough. (Tel.: Market Deeping 2355—3 lines.) Quarry at Ropsley, all grades of hardcore and broken stone. (See also Northamptonshire.)

POLLARD, C., AND SON (TALLINGTON), LTD., Walk House, Langtoft, Peterborough. Pits at Tallington, near Stamford, Lincs. (Tel.: Market Deeping 2140.) All grades washed sand and aggregates. For "Supercrete" ready mixed concrete, 'phone Market Deeping 3132.

TRENTFORD GRAVELS, LTD., Head Office: Deansgrove, Grimsby. (Tel.: Grimsby 5354.) Washed and graded gravel and sand, roadstone, hardcore, slag, tarmac, ashes, etc. Pits and quarries throughout the county.

LONDON

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester (Tel.: Coalville 1226/7/8; or London: Norwood Hill 115.) (For dets., see Leics.)

COX, H., AND SONS, LTD.,
33 Southampton Way,
Camberwell, S.E.5.
(Tel.: Rodney 2215—3 lines.)

CROFT GRANITE, BRICK AND CONCRETE CO., LTD., 128-136 High Street, Edgware, Middlesex. (Tel.: Edgware 0076/7 and 1246.) "Kubitized" granite aggregate to B.S.S., tarred and bituminous macadam, cold asphalt, "Croftmatite" Wet Mix, filter media, concrete products.

DANGERFIELD, F. J., AND CO., LTD., 261A Finchley Road, N.W.3. (Tel.: HAMpstead 8044-8.) Granite, limestone or slag, coated or dry, all sizes and pitching, granite kerb and setts, felspar quartz and other minerals by road or rail, or ex-London stock.

DORSET LIMESTONES, LTD., Bumpers Lane, Easton, Portland, Dorset. (Tel. Portland 2207/8.) (For details see Dorset.)

DRINKWATER, W. W. (WILLESDEN), LTD., Dudden Hill Lane, Willesden, N.W.10. (Tel.: GLAdstone 6400/5.) Pits: Rush Green, Denham, Bucks. (Tel.: Denham 2241/2/3.) Also Staines Road, Hounslow Heath, Middlesex. (Tel.: Hounslow 6222/3.)

GABRIEL, C., LTD., Palmers Lane, Enfield, Middx. (Tel. HOWard 4351/2/3.) Washed aggregates and building sand. Pits at Enfield and Hertford.

HALL AND CO., LTD., Chaunrey House, Eccleston Street, S.W.1 (Tel.: Sloane 7122), and at East Dulwich, Poplar and Wandsworth. Gravel aggregates, concreting, plastering and building sand.

KEEN, W. J., AND SONS, 18 Granville Road, Epping, Essex. (Tel.: Epping 2520.) All sands, ballasts, shingle and hardcore supplied.

LONDON BALLAST CO., LTD. (Tel.: Paddington 5064). 55A Porchester Terrace North, Paddington, W.2.

READ, P. T., LTD., Gales Gardens, Bethnal Green, E.2. (Tel.: Shoreditch 9128/9.) All sands, ballast and shingles supplied and delivered; also ready mixed concrete. Pits: Fairlop Airfield, Forest Road, Ilford, Essex. (Tel.: Hainault 6111/2/3.)

ROADS RECONSTRUCTION (1934), LTD., Stockley Lane, West Drayton, Middlesex. (Tel.: West Drayton 3041.) All sizes broken limestone, dry and coated to British Standards.

MERIONETHSHIRE

SALOP SAND AND GRAVEL SUPPLY CO., Admaston, Wellington (Tel. 961), Salop.

MIDDLESEX

CROSS, GEO. C., AND CO., LTD., Ironbridge, Uxbridge Road, Southall. (Tel.: Southall 2264/5/6.) Sand, balast, shingle, hardcore, ashes, etc

DRINKWATER, W. W. (WILLESDEN), LTD., Staines Rd., Hounslow Hth., Middx. (Tel.: Hounslow 6222/3.)

GABRIEL, C., LTD., Palmers Lane, Enfield, Middx. (Tel. HOWard 4351/2/3.) Washed aggregates and building sand. Pits at Enfield and Hertford.

GRUNDON, S., 79 Harlington Road, Hillingdon, Middlesex. (Tel.: Uxbridge 4156.) Sand, ballast, shingle, hardcore, ashes, excavation and demolition.

HALL AND CO., LTD., Chaunrey House, Eccleston Street, S.W.1 (Tel.: Sloane 7122), and at Ashford and Brentford. Pit at Bedfont, near Feltham. Gravel aggregates, concreting, plastering and building sand.

LONDON BALLAST CO., LTD. (Tel.: Paddington 5064). 55A Porchester Terrace North, Paddington, W.2.

STUART MACEY, LTD., Gordon Road, High Wycombe. (Tel.: High Wycombe 2591/2.)

THAMES SAND AND GRAVEL CO., LTD., Fordbridge Road, Shepperton. (Tel.: Walton-on-Thames 23616.) Gravel aggregates, concreting, plastering and building sand.

WRAYSBURY SAND AND GRAVEL CO., LTD. Pits at Wraysbury. (Tel.: Wraysbury 164.) Gravel aggregates, concreting, plastering and building sand.

CONTRACTORS' GUIDE TO AGGREGATES

MID-WALES

BENGRY AND SONS, LTD., Longmoor, Kingsland, Leominster, Herefordshire. (Tel.: Kingsland 301/4.) (See details under Herefordshire.)
ELLESMERE SAND AND GRAVEL CO., LTD., Wood Lane, Ellesmere, Salop. (Tel.: Ellesmere 167.) (For details, see Shropshire.)
HARPER AND THOMAS, LTD., Bayston Hill Quarry, Shrewsbury. (See Shropshire for details.)
NASH ROCKS STONE AND LIME CO., LTD., Presteigne, Radnor. (Tel.:: Presteigne 352.) (See Herefordshire for details.)
OLD RADNOR TRADING CO., LTD. Quarries in Radnorshire (Tel.: Kington 11.) (See Herefordshire.)
SALOP SAND AND GRAVEL SUPPLY CO., Admaston, Wellington (Tel. 961), Salop.
TERN HILL SAND AND GRAVEL CO., LTD., Almington Quarries, near Market Drayton, Staffs. (Tel.: Hales 261/2/3.) (See Staffordshire for details.)

MONMOUTHSHIRE

IN-SITU CONCRETE, LTD., Victoria Works, Ebbw Vale (Tel. 3032) and Phoenix Works, Cardiff (Cardiff 63311) for limestone and slag aggregates, ready-mixed concrete, tarmacadam, media, filling, etc., kerbs and pavings.
MONMOUTHSHIRE ASSOCIATED QUARRIES, LTD., Head Office: 38 Chepstow Road, Newport, Mon (Tel.: Newport 58311/2.) Suppliers of all grades of concrete aggregates, road metalling, pitching stone, tarmacadam and bituminous macadam in limestone, dolomite and blue pennant stone. Quarries throughout the county.
WHITECLIFF QUARRIES AND BRICKWORKS, LTD., Coleford, Glos. (Tel. 3158/9.) (See Gloucestershire.)

MONTGOMERYSHIRE

HARPER AND THOMAS, LTD., Bayston Hill Quarry, Shrewsbury. (See Shropshire for details.)
NASH ROCKS STONE AND LIME CO., LTD., Presteigne, Radnor. (Tel.: Presteigne 352.) (See Herefordshire for details.)
SALOP SAND AND GRAVEL SUPPLY CO., Admaston, Wellington (Tel. 961), Salop.

NORFOLK

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: Norwood Hill 115.) (For dets., see Leics.)
FRECKENHAM GRAVEL CO., LTD., The Brook, Sutton, Ely, Cambs. (Tel.: Sutton 391/3.) Washed sand and gravel. Pit: Feltwell.
JOHNSON, P. C. H., LTD., Station Road, Terrington St. Clement, near King's Lynn. (Tel.: Terrington St. Clement 248.) Washed and screened gravel, roadstone, washed sharp and fine sands.
THORPE GRAVEL PITS, LTD., Harvey Lane, Norwich. (Tel.: Norwich 332434.) Washed and graded aggregates, stone and gravel delivered to all parts of Norfolk and Suffolk.

NORTHAMPTONSHIRE

AMEY'S AGGREGATES, LTD., Lower Wootton, Boars Hill, Oxford. (Tel.: Oxford 35421—10 lines.) Pits at Dry Sandford, near Abingdon, Sutton Courtenay, near Abingdon. (Tel.: Sutton Courtenay 275.) Theale, near Reading. (Tel.: Theale 358.) Dorchester, Oxon. (Tel.: Clifton Hampden 236.) Billing, Northampton (Tel.: Cogenhoe 464) for washed and graded aggregates to B.S.S.
BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: Norwood Hill 115.) (For dets., see Leics.)
BICESTER STONE CO., LTD., Stratton Audley, Bicester, Oxon. (Tel.: Stratton Audley 238.) Manufacturers and suppliers of all grades limestone tarmacadam, dry, pitching stone, hardcore, etc.
BILLING GRAVEL CO., LTD., Station Road, Billing, Northampton. (Tel.: Cogenhoe 219). London office: 23 Berkeley Square, W.1. (Tel.: Mayfair 6341.)
BRAYBROOK, E. W., LTD., Newton Road, Hisham Ferrers, Northants. (Tel.: Rushden 3344 and 3345.) All grades of washed and graded aggregates to B.S.S., Building sand, hardcore.
DOW-MAC (PRODUCTS), LTD., Tallington, Stamford. All grades of washed sand and gravel. (Tel.: Market Deeping 2301.)
DUSTON STONE QUARRIES, LTD., New Duston, Northampton. (Tel.: Brixworth 278 and 298; Duston 505.) Producers of building and walling stone, roadstone, hardcore, broken stone, ashes, sand, gravel and hoggin. Immediate delivery throughout Northamptonshire.
FERRERSAND AGGREGATES, LTD., Northampton Road Quarries, Rushden, Northants. (Tel.: Rushden 2354/5.) Largest producers in the county of all grades of high-quality concrete aggregate to B.S.S. Deliveries throughout Northamptonshire and adjoining counties.
GIBBONS, F. B., AND SONS, LTD., Welby House, Market Deeping, Peterborough. (Tel. Market Deeping 3321/2383.) (See Lincolnshire for details.)
HOVERINGHAM GRAVEL CO., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)
KETTON STONE CO. (Prop. Andrew's Garage), Ketton, near Stamford. (Tel.: Ketton 206.) Hardcore, roadstone, crushed stone, top soil, silica clay. Quarries at Ketton.
MACKANESS, A. J., LTD., Ransome Road, Northampton. (Tel.: Northampton 589.) Producers of all grades of washed aggregates. Building sand. Mixmortar (lime/sand mortar). Prompt deliveries.
NENE BARGE AND LIGHTER CO., LTD., Market Chambers, Peterborough (Tel. 5534/5), and Ship End Quarries, Wansford, near Peterborough (Tel.: Wansford 384/5). Roadstone, hardcore, broken stone, ballast, ashes, silica clay and sand.
NEWARK (PETERBOROUGH) SAND AND GRAVEL CO., LTD., 127 Eastfield Road, Peterborough. (Tel.: Peterborough 2091.) All grades washed and screened gravel and sand.
PETERBOROUGH QUARRIES, LTD., Sandylands, Maxey, Peterborough. (Tel.: Market Deeping 2355—3 lines.) Eight quarries supplying all grades of hardcore and broken stone. Also Weimix at Yarwell, Wansford. All grades gravel and sand at Maxey.
POLLARD, C., AND SON (TALLINGTON), LTD., Walk House, Langtoft, Peterborough. (Tel.: Market Deeping 2140.) (See Lincolnshire for details.)
WELFORD GRAVELS, LTD., Head Office: Goldington, Bedford. (Tel.: 4587/8/9.) Largest producers of all grades of washed aggregates in Northamptonshire and Bedfordshire. Regular deliveries anywhere. Local office and pits: Portly Ford. (Tel.: Welford 256.)

NORTH WALES

CAWOOD, WHARTON AND CO., LTD., Pistyll Gwyn Quarry, Llanarmon, near Mold. (Tel.: Llanarmon-yn-Ial 27.) Crushed limestone and tarred macadam, all grades.
CHESHIRE AND NORTH WALES TARRED MACADAM CO., LTD., Llanarmon, near Mold. (Tel.: Llanarmon-yn-Yale 43.) Hard, broken limestone, dry and coated to B.S.S. Inquiries to Registered Office — Market Chambers, Tower Square, Tunstall, Stoke-on-Trent. (Tel.: Stoke-on-Trent 88094.)
ELLESMERE SAND AND GRAVEL CO., LTD., Wood Lane, Ellesmere, Salop. (Tel.: Ellesmere 167.) (For details, see Shropshire.)
ENSTON BROS., Llwyn Isaf Quarry, Clynnog Fawr, Caernarvon. (Tel.: Clynnog Fawr 297/8.) All sizes crushed, washed natural sand and gravel. Highest quality. Precast concrete products, ex our Griffiths Crossing Factory, Caernarvon. (Tel.: Caernarvon 2535/6.) Crushed granite ex our quarry, Penyberth and Gwydyr Quarries, Ltd., Trefriw, Llanrwst, Denbighshire. (Tel.: Llanrwst 38.)
PENMAENMAWR AND WELSH GRANITE CO., LTD. Quarries at Penmaenmawr (Tel. 2256/8), and at Trevor (Tel.: Clynnogfawr 223), Caernarvonshire. All sizes and gradings of crushed granite aggregate. Any quantity per day; immediate delivery ex stock. Coated granite also available.
RUTHIN AND DENBIGH TARMACADAM CO., LTD., Denbigh. (Tel.: Denbigh 75.) Lime, limestone, carbonate of lime, tarmacadam, etc. Also inquiries to Lunt Bros., Ltd., 23 Colmore Row, Birmingham. (Tel.: Central 7408—4 lines), and Lunt Bros., Ltd., Stourbridge (Tel. 5201—6 lines).
TERN HILL SAND AND GRAVEL CO., LTD., Almington Quarries, near Market Drayton, Staffs. (Tel.: Hales 261/2/3.) (See Staffordshire for details.)

NOTTINGHAMSHIRE

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: Norwood Hill 115.) (For dets., see Leics.)
BURROWS BROTHERS (EXCAVATIONS), LTD., Market Place Chambers, West Bars, Chesterfield. (Tel. 7130.) (For details, see Derbyshire.)
GLEN QUARRIES, LTD., Central Chambers, Wellgate, Rotherham. (Tel.: Rotherham 5223.) Crushed and graded stone, concreting sand, building sand, plastering sand and crushed gravel; could be collected ex-quarry or delivered.
GUNTHORPE GRAVELS (1958), LTD. (Tel.: Nottingham 77357; and Works: Lowdham 2131.) (An associate company of T. C. Campbell, Ltd.) All grades washed gravel and sand to B.S.S.
HOVERINGHAM GRAVEL CO., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) Quarries at Hoveringham, Holme, Pierrepont Colwick, Bleasby and Newark. All grades of washed gravel and sand to any specification. Crushed quartzite for surface dressing of roads a speciality. Plant capacity 8,000 tons per day.
NEWARK GRAVEL AND CONCRETE CO., LTD., Grove Street, New Balderton, Newark, Notts. (Tel.: Newark 401.) All grades washed sand and aggregates.
SALISBURY AND WOOD, LTD., Matlock. (Tel. 272/273.) (For details see Derbyshire.)

OXFORDSHIRE

AMEY'S AGGREGATES, LTD., Lower Wootton, Boars Hill, Oxford. (Tel.: Oxford 35421—10 lines.) Pits at Dry Sandford, near Abingdon, Sutton Courtenay, near Abingdon. (Tel.: Sutton Courtenay 275.) Theale, near Reading. (Tel.: Theale 358.) Dorchester, Oxon. (Tel.: Clifton Hampden 236.) Billing, Northampton (Tel.: Cogenhoe 464) for washed and graded aggregates to B.S.S.
BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: Norwood Hill 115.) (For dets., see Leics.)
BENGRY AND SONS, LTD., Longmoor, Kingsland, Leominster, Herefordshire. (Tel.: Kingsland 301/4.) (See details under Herefordshire.)
BICESTER STONE CO., LTD., Stratton Audley, Bicester, Oxon. (Tel.: Stratton Audley 238.) Manufacturers and suppliers of all grades limestone tarmacadam, dry, pitching stone, hardcore, etc.
CURTIS, J., AND SONS, LTD., Botley Works, Oxford. (Tel. Oxford 41081/2/3.) Sand and all grades of washed aggregates. Pits at Radley, near Abingdon. (Tel.: Abingdon 441.)
DANGERFIELD, F. J., AND CO., LTD., 261A Finchley Road, London, N.W.3. (Tel.: HAMpstead 8044/8.) For all road aggregates, kerbs, setts. (See London.)
DIX, G. H., AND SON, LTD., Freeland, Oxon. (Tel.: Freeland 234.)
DUSTON STONE QUARRIES, LTD., New Duston, Northampton. (Tel.: Brixworth 278 and 298; Duston 505.) (See Northamptonshire.)
GRUNDON, S., (EWELME), LTD., Ewelme, Oxon. (Tel.: Ewelme 20.) London Office (Tel.: Uxbridge 4156.) All grades washed aggregates. Path hoggin, broken stone, building sand.
HAINES, H., (WITNEY), LTD., Oxford Road, Witney. (Tel.: Witney 42.) All grades washed aggregates, hardcore, pitching and broken stone, Cotswold building and walling stone.
WRAYSBURY SAND AND GRAVEL CO., LTD., Station Rd., Theale, Reading, Berks. (Tel.: Theale 373.)

RADNORSHIRE

BENGRY AND SONS, LTD., Longmoor, Kingsland, Leominster, Herefordshire. (Tel.: Kingsland 301/4.) (See details under Herefordshire.)
NASH ROCKS STONE AND LIME CO., LTD., Presteigne, Radnor. (Tel.: Presteigne 352.) (See Herefordshire for details.)
OLD RADNOR TRADING CO., LTD. Quarries in Radnorshire. (Tel.: Kington 11.) (See Herefordshire.)
SALOP SAND AND GRAVEL SUPPLY CO., Admaston, Wellington (Tel. 961), Salop.

RUTLAND

BULLIMORES SAND AND GRAVEL, LTD., South Witham, Grantham, Lincs. (Tel.: Thistleton 223.) Building sand, hardcore, ashes. All grades washed sand and aggregates.
GIBBONS, F. B., AND SONS, LTD., Welby House, Market Deeping, Peterborough. (Tel.: Market Deeping 3321/2383.) (See Lincolnshire for details.)
HOVERINGHAM GRAVEL CO., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)
KETTON STONE CO. (Prop.: Andrew's Garage), Ketton, nr. Stamford. (Tel.: Ketton 206.) Hardcore, roadstone, crushed stone, top soil, silica clay. Quarries at Ketton.

RUTLAND

PETERBOROUGH QUARRIES, LTD., Sandylands, Maxey, Peterborough. (Tel.: Market Deeping 2355—3 lines.) Quarry at Greetham, all grades of broken stone and hardcore. (See also Northamptonshire.)
POLLARD, C., AND SON (TALLINGTON), LTD., Walk House, Langtoft, Peterborough. (Tel.: Market Deeping 2140.) (See Lincolnshire for details.)

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BALLIDON QUARRIES, LTD., Ballidon, near Ashbourne, Derbyshire. (Tel.: Parwich 201 and 202.) Clean and graded dry limestone to B.S.S., all sizes coated limestone to B.S. 802 and 1621 and wet-mix: large output; reliable deliveries.
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OLD RADNOR TRADING CO., LTD., Kington (Tel 11.) (See Herefordshire.)
SALOP SAND AND GRAVEL SUPPLY CO., Admaston, Wellington (Tel. 961), Salop.
TERN HILL SAND AND GRAVEL CO., LTD., Almington Quarries, near Market Drayton, Staffs. (Tel.: Hales 261/2/3.) (See Staffordshire for details.)
TRENTHAM GRAVEL CO., LTD., Lordsley Quarries, Willoughbridge, near Market Drayton, Salop (Tel.: Pipe Gate 304/5.) All sizes crushed or natural washed gravel. Twice washed sharp concreting sand. Plastering sand. Plant capacity 2,000 tons per day.

SOMERSET

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HALL AND CO., LTD., Longmoor House, Ashton Vale Road, Bristol, 3. (Tel. 63001.) Gravel aggregates concreting, plastering and building sand.
ROADS RECONSTRUCTION (1934), LTD., Stoneleigh House, Frome. (Tel.: Frome 2361.) All sizes broken limestone, dry and coated, to British Standards. Precast concrete products.
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ESK MANUFACTURING CO., LTD., Carlisle. (Tel.: Carlisle 2-4941.) (For details see Cumberland.)

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STAFFORDSHIRE

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DUNNING AND SON, LTD., Wood End Gravel Pits, Hednesford. (Tel.: Hednesford 302/325.) Washed sand and gravel. All to B.S.S. High-quality roadstone, concrete aggregates and coated macadam from our Haughmond Quarry, near Shrewsbury. (See Shropshire.)
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HARPER AND THOMAS, LTD., Bayston Hill Quarry, Shrewsbury. (See Shropshire for details.)
HILTON GRAVEL, LTD., Cheadle, Staffs. (Tel.: Tean 241.) Also at Longton, Stoke-on-Trent (Tel.: Longton 32196) and Stretton, Burton-on-Trent (Tel.: Burton 6061).
HULLAND GRAVEL CO., LTD., Cheadle, Stoke-on-Trent. (Tel.: Cheadle 2323/4, 2119 and 2195.) Manchester Office: Hardy's Buildings, 3 Cateaton Street, Manchester, 3. (Tel.: Blackfriars 2277/8.)
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CONTRACTORS' GUIDE TO AGGREGATES

STAFFORDSHIRE

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SHIRE OAK GRAVELS, LTD., Lichfield Road, Walsall Wood, Staffs. Washed crushed gravel and washed sand. (Tel.: Brownhills 3253.)

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TRENTHAM GRAVEL CO., LTD., Lordsley Quarries, Willoughbridge, near Market Drayton, Salop. (Tel.: Pipe Gate 304/5.) All sizes crushed or natural washed gravel. Twice washed sharp concreting sand. Plastering sand. Plant capacity 2,000 tons per day.

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WINTON, WM. R., LTD., Send, Woking. (Tel.: Ripley 2454/5.) All grades sand, shingle, ballast, hoggin and ashes. Clinker block manufacturers.

SUSSEX

AVANN, F., Cavendish Avenue, Eastbourne. (Tel.: 4969/70.) Washed and graded ballast, sand, bricks, breeze and concrete blocks, hardcore, clinker, tarmac, etc., supplied.

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HALL AND CO., LTD., 16 Chapel Road, Worthing. (Tel.: Worthing 7840.) Other main depots at Bexhill, Bognor, Crowborough, East Grinstead, Eastbourne, Horsham, Hove and Seaford. Pits at Washington, Crumbles, near Eastbourne, Chichester, Rye Harbour, Midhurst, Shoreham and Portslade. Gravel aggregates, concreting, plastering and building sand, Surecrete precision-mixed concrete.

HARRIS, M. P., AND CO., LTD., West Station Goods Yard, Bexhill (Tel. 61); Cavendish Place, Eastbourne (Tel. 3800); Dominion Road, Worthing (Tel. 8822); Whitbread Lane, Northiam (Tel. 2211); Station Goods Yard, Haywards Heath (Tel. 1750); Crawley Road, Horsham (Tel. 3366); The Hornet, Chichester (Tel. 4181). All grades aggregates, hardcore, clinker, ashes, etc.

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BALLIDON QUARRIES, LTD., Ballidon, near Ashbourne, Derbyshire. (Tel.: Parwich 201 and 202.) Clean and graded dry limestone to B.S.S., all sizes, coated limestone to B.S. 802 and 1621 and wet-mix; large output; reliable deliveries.

BRUNTINGTHORPE GRAVELS, LTD., Gilmorton, near Rugby. (Tel.: Lutterworth 46.) All sizes gravel aggregates, building and concrete sand to B.S.S., scientifically balanced ballast.

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JUDKINS, LTD., Granite Quarries, Tuttle Hill, Nuneaton. (Tel.: Nuneaton 3411—10 lines.) All sizes washed granite aggregate, tarred and bituminous macadam. Slab mix a speciality.

WELFORD GRAVELS, LTD. Head Office: Goldington, Bedford (Tel. 4587/8/9.) (See Bedfordshire and Northamptonshire.)

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BROOMBYS, LTD., Sandside, Milnthorpe, Westmorland. (Tel.: Milnthorpe 3251/2.) All grades washed crushed gravel, sand, limestone, granite chippings, pitching, tarmacadam, rockery stone, etc.

ESK MANUFACTURING CO., LTD., Carlisle (Tel.: Carlisle 2-4941). For details, see Cumberland.

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AMEY'S AGGREGATES, LTD., Lower Wootton, Boars Hill, Oxford. (Tel.: Oxford 35421—10 lines.) Pits at Dry Sandford, near Abingdon, Sutton Courtenay, near Abingdon. (Tel.: Sutton Courtenay 275.) Theale, near Reading. (Tel.: Theale 358.) Dorchester, Oxon. (Tel.: Clifton Hampden 236.) Billing, Northampton (Tel.: Cogenhoe 464) for washed and graded aggregates to B.S.S.

BULL BROS., S. AND L., LTD., 126A High Street, Winchester. (Tel.: 2264.) (See Hampshire.)

WILTSHIRE

COKE, T. F. (CHELTENHAM), LTD., 267 Gloucester Road, Cheltenham. (Tel.: 4717/4874.) (See Glos.)

DANGERFIELD, F. J., AND CO., LTD., 261A Finchley Road, London, N.W.3. (Tel.: HAMpstead 8044/8.) For all road aggregates, kerbs, setts. (See London.)

GILSON, S. C., AND SONS, LTD., Holcombe, near Bath. (Tel.: Stratton-on-the-Fosse 243.)

MOREYS (VERWOOD), LTD., Verwood, Wimborne, Dorset. (Tel.: Verwood 234.) Concrete aggregates, building sand, hoggin path gravel.

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DUNNING AND SON, LTD. (See Shropshire.)

HARPER AND THOMAS, LTD., Bayston Hill Quarry, Shrewsbury. (See Shropshire for details.)

NASH ROCKS STONE AND LIME CO., LTD., Presteigne, Radnor. (Tel.: Presteigne 352.) (See Herefordshire for details.)

OLD RADNOR TRADING CO., LTD., Kington. (Tel. 11.) (See Herefordshire.)

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BRAITHWAITE, A., AND CO., LTD., Conyngham Hall, Knaresborough. (Tel.: Knaresborough 2286.) Quarries at Knaresborough (Tel.: Knares. 2286) and Catterick (Tel.: Old Catt. 157). Washed, crushed and graded concrete aggregates to B.S. Specification. Output 2,000 tons daily. Ready mixed mortar and ready mixed concrete also available.

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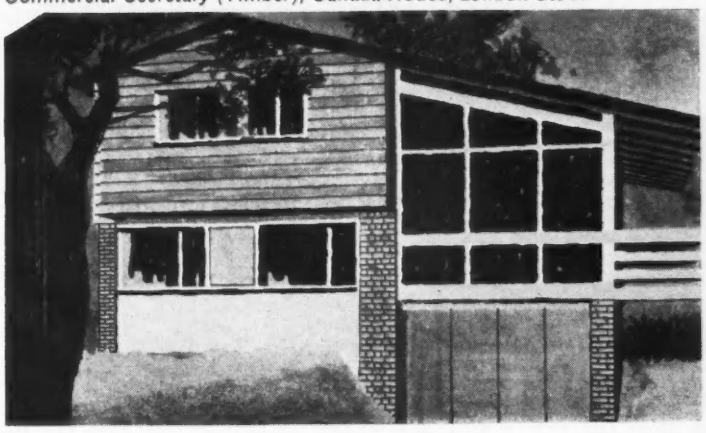
THE INDEX TO DISPLAYED ADVERTISEMENTS WILL BE FOUND ON PAGE 204

London: Printed and published by the Proprietors, The Contract Journal Company, Ltd., 32 Southwark Bridge Road, S.E.1. Thursday, April 14, 1960. Registered at the General Post Office as a newspaper.

Western red cedar

With a tree of great age (1,200 years is not unusual) a timber of enormous resilience may be taken for granted. Yet Western Red Cedar is also the lightest of all commercial softwoods and is unsurpassed in its easy workability. Free from pitch or resin, highly resistant to decay, acids and alkalies, handsome both in texture and colour—few timbers combine so many rare qualities, or provide a better material for so many different uses. Roof decking, exterior cladding, interior panelling, door and window framing, are just some examples. *For further information contact the Commercial Secretary (Timber), Canada House, London SW1.*



The Canada Trend House at the 1960 Ideal Home Exhibition

"Flexible Power Handling"

Quarried in Sierra Leone, or Stockpiled at Barrow, Iron Ore is best handled with Michigans.

Iron Ore reaches Barrow Docks from all over the world—from Sierra Leone for example, where a Michigan 280 Tractor Dozer helps to quarry the Iron Ore and handle the Concentrates produced. Like the Barrow Ironworks Limited, the Sierra Leone Development Company Limited had an ore handling problem which they solved by using Michigans. As a result, we find these large capacity mobile machines working at both ends of the line of production, at the excavation of the ore, and off-loading and handling the finished Pig Iron.

FROM MINE

In Sierra Leone, the Company needed a versatile machine to push scrapers, to build and maintain roads, and generally to bring *big shifting capacity quickly to any spot* over the scattered workings in rough terrain. They needed a machine which would keep going in the worst possible climatic conditions, and they tested the 27 m.p.h., 260 horsepower Tractor Dozer through the tropical rains and then bought it.

TO PLANT

At Ramsden Dock, Barrow, the problem was to clear the discharged cargo quickly from the Dockside to adjacent Stockpiles, and to load into Hopper Wagons for delivery to the Plant, two miles up the coast. Vessels follow one another rapidly into Ramsden Dock, and the process must keep going in all weathers.

CAPITAL SAVING

Barrow Ironworks originally visualised an over-head conveyor system, estimated to cost around £500,000 to look after the Dockside problem only. In 1957 they bought instead a fleet of five Michigans model 175A Tractor Shovels, which not only gave them far greater handling capacity than they had planned, but also provided mobile power for off-loading, loading, stacking, clearing tracks, and road building at the Plant.

OPERATIONAL EFFICIENCY

Servicing is easy for the five machines, and *at no time has the job stopped because of breakdown since the fleet went into operation.*

At Dockside, five 10-ton Jib Cranes, grab the ore from the ships, and discharge it into Bins along the Quay. A 10,000-ton vessel will be emptied in three 8-hour shifts. As the vessel is discharged, four Michigans move in and stockpile the ores, or load direct into adjacent railway Hopper Wagons.

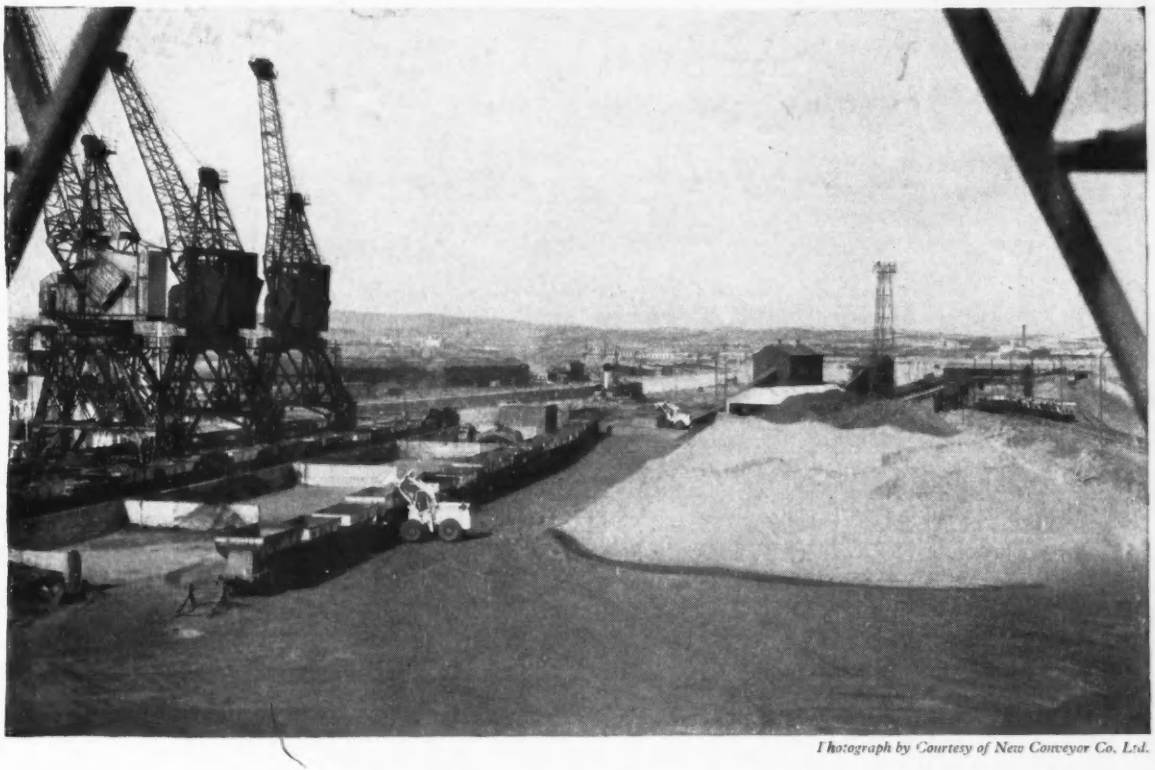
The Stockpiles are spread over a wide area, and production rates vary according to the length of run, but each machine averages 100 tons per hour. There is no difficulty in keeping pace with the rate of discharge of the vessel, in fact, only four of the five machines are used at one time, and these have time to spare to feed into the crushing plant, and load into railway wagons from the Stockpiles.

THE VERSATILE MICHIGAN

At the works, one Michigan model 175A is being used for a variety of tasks—clearing out slag pits, making roads, carrying and pouring cement, removing scrap and even combating the channel-side erosion, tipping and compacting spoil.

These fast-moving machines have made very considerable savings in capital costs, and have engendered a feeling of confidence in their ability to cope with any handling problem without stoppage, Even to the casual observer they have created an air of confident efficiency.

MICHIGAN



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SCOTTISH DEPOT: 72 Dykehead Street, Queenslie, Glasgow, E.3
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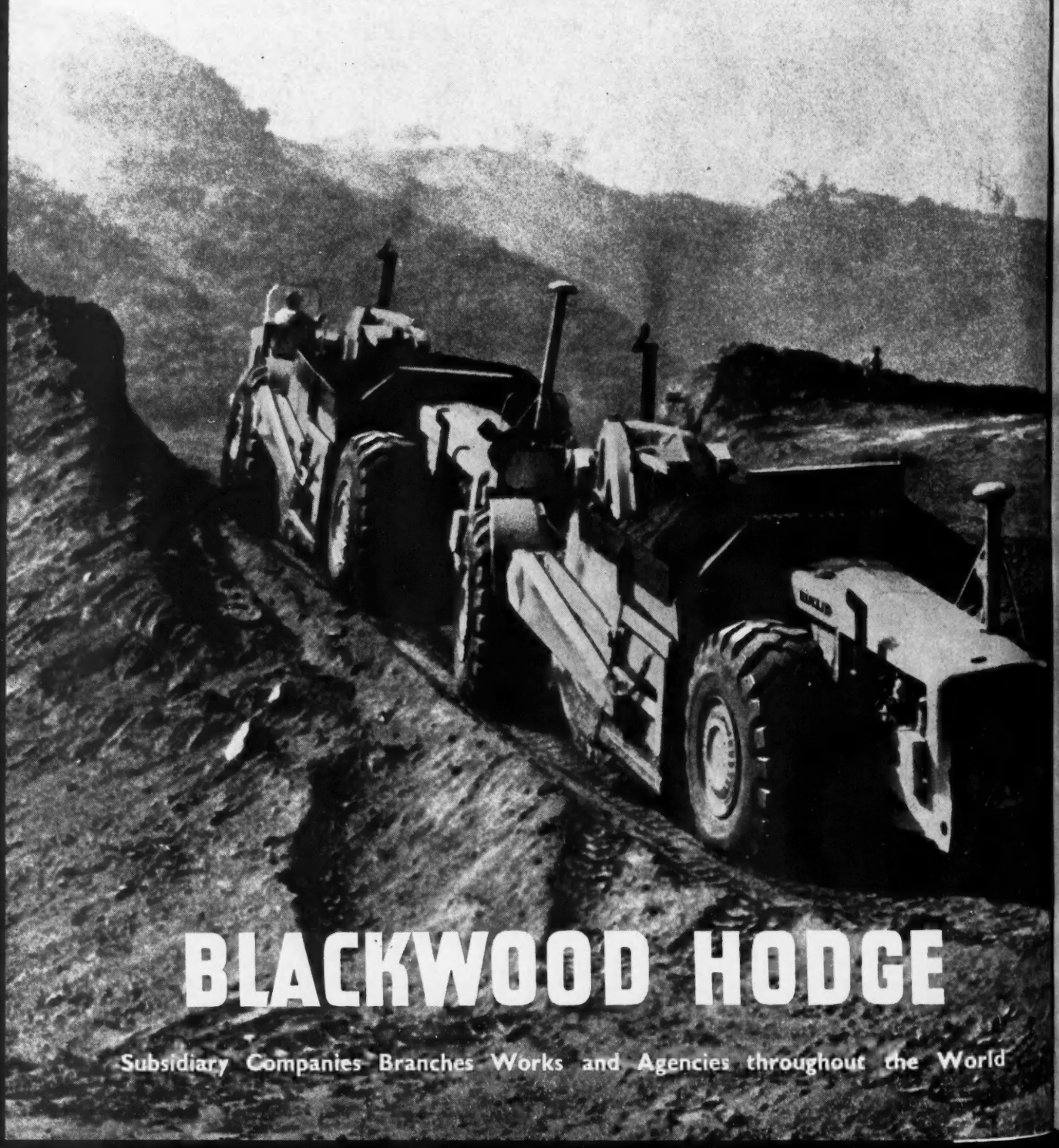
A hungry pack of EUCLID TS-24 Twin-Power scrapers really surges into action.

The TS-24 has twin Cummins diesel engines, totalling 580 b.h.p. It can self-load most scraper materials—a one-man crew can handle loads of up to 32 cu. yds.

The TS-24 is the biggest profit-earner in the EUCLID range. Ask for a demonstration.



BLACKWOOD HODGE

Subsidiary Companies Branches Works and Agencies throughout the World